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THE ONLY VITICULTURAL PAPER IN THE STATE.

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### Wine and Brandy Making as a Profession.

(The following paper was read by H. A. Merriam, of Low Gates, before the Sixth Annual Convention of Viticulturets, held under the auspetes of the State Communisation.)

Mr. President, Ladies and Gentleman :-Some time ago when invited by the State Board of Commissioners to contribute a paper on some topic pertaining to the industry, I was surprised into consenting, choosing for my subject, "Wine and Brandy Making as a Profession." On sober second thought I was tempted to back out, when I considered the broad field I had undertaken to traverse and many abler men among you who are far more competent to do the the subject justice. However, I'll give you the result of my feeble efforts.

In these days of high attainments when college bred men are casting about them for ways and means of making such use of their classical or liberal education, as will build themselves up in the social and political world, some profession is the first thing to deside upon. Those most commonly thought of are law, in dicine, journalism and theology. Of the first, the ranks are full of graduates, and the law-schools are overflowing with students, all actuated by the hope of sometime, somewhere reaching the top of the ladder, where Daniel Webester said there was room. As with law, with the other profession mentioned. The ranks are always getting fresh recruits and strong reinforcements from the best material in the land, and of these thousands who fill these ranks how many struggle for years and af last give up the battle and drift away the balance of their lives.

If these professional men had been asked if they thought wine and brandy making a profession, we should have answered, No. I doubt myself if it has ever been dignified by that term b fore. And yet why shouldn't it be, and why isn't it as grand and honorable a profession as any? Is it that there is no such skill needed in making wine and brandy as is needed by a lawyer in conducting a difficult case before the the courts? is it that there is no such call for patience and watchfulness as is needed by the physician? Or is it, that in our bufiness, we have no use for the mass of information that is needed by the journalist who aims to gratify the world's appetite

all these and much more.

A college education whether liberal or classical is not too good to be used in the successful prosecution of this business, The most eminent jurists in the fand, had they devoted the same number of years to the study of this business in all its phases, as is given their other profession, would find they had not exhausted the subject. On the contrary they would find that all their skill and knowledge would be taxed to its utmost in looking after the numerous details of the business. In the beginning, consider the amount of knowledge necessary in selecting your land, location, soil, variety of grapes, the adaptability of your particular section to certain kind of grapes, the relative merits of Zin, Carigau and Cabernet, of Chassales, Sanvignon and Semillion, of the advantage of footbill over valley fand. Isn't there material for study in all this.

Assuming then that all these preliminary steps are taken and you have a vineyard in full bearing, the next step is the cellar and distillery, here, then, is another call for more knowledge of a different kind. You will say let the architect attend to the plan for the building, the foundation, the drainage and sewerage system that is necssary. Let the carpenter or contractor devise ways and means for putting everything into position for, they know not what, as many of them never saw a drop of wine made, and there are thousands of little dstails that are never put into the plan and specifications of the architect that are absolutely accessary to do the work quickly and economically. You all know something of the cost for extras that always ring in over and above the contract price. To me it seems as much n part of the profession as any of the work. This planuing a building in accordance with the lay of the land, and the amount of money to be expended, the superintending of the carpenter work so as to make every day count, getting all the machinery of the right size and in the right place, and the whole speeded up just right; all this forms a atudy that cannot be learned in one month or one year, but it is part of the profession, and to learn even this part of it requires hard work and harder study.

Having the cellar built and a crop like the vintage of '57 coming in, you are ready for news. Are none of these requisits nee for wine and brandy making. Do you sup- tion of all three.

essary in making wine and brandy? Aye, pose any lawyer or doctor has anything more difficult to handle than a bad formentation with all the evils following in its track? I doubt if they have; and yet, I have heard mea say, "O, pshaw! anybody can make wine; all you have to do is to crush the grapes into a tank and the wine will make itself."

> In that one word fermentation there is food for thought and study that will exercize the best brains of any man, be he college bred or not.

> We know as a natural result of crashing a mass of grapes together into a tank that in a few days or hours fermentation begins. that is, that carbonic acid cas and heat is generated and that our must is fermenting. But who has yet gone deep enough into the subject to 'tell all there is to be learned about the growth and decay, the production and reproduction of the ferment germ, this living atom, or minute organism, that by some mysterious process in a few days converts the 22% or 21% of sagar in our most into spirits, and thus gives us wine instead

> Isn't this subject as worthy of study as the study of Greek or Latin? Don't it take as much brains and intelligence to master this one subject; as it does to master the Greek roots or the Latin conjugations?

> Again I find a great diversity of opinion among ablest wine-makers as to the best method of handling the must during a fermentation. Some advocate the false head or barred cover for submerging the pomace, others will have done of it.

> Some ferment with the stems, others do not, some do this thing, others that which is right. Is there anything to study here? And when your fermentation stops before the wine is dry, what do you do, erush fresh grapes, Bergers if you can get them, into a tank and when they have started, pninp your stuck wine ento them, how much, how little. Some do this when they have the grapes, and it works well, but suppose you have no room and few fresh grapes, what then, chance here for more study, isn't there?

What is the difference between a good wine and a half wine, how many men in the business have finally entireated tastes enough to tell what constitutes those subtle, delicate shades of difference, is it the bouquet, color, or flavor, or isit a combina-

If, as we are led to believe, France ia is her decadence as a wine producing country, what more natural than that the mantle should fall upon our Golden State. If it should, are we all ready for it, should we sell direct to France or should we sell to her castomers. It strikes me here is a pretty broad field for study.

A thorough knowledge of book-keeping is essential, as all business men know, a knowledge of foreign language is of great ndvantage, and some knowledge of international law a necessity. Is it the antique that is sought? what more ancient than the vine, it was centuries old before English jurespondence was thought of. Is it the poetical or practical you would study, what study, what subject has had more changes rung on it in poetry and sentiment, in prose and practice, than the vine.

Take for instance, the introduction of the vice into France, its beginning is lost in the mists of antiquity, and its history is written in letters of blood and fire.

Time and again are the vinevards devastated by the Goths and Vandals, by the Norman and Hungarian, and time and again are they wrested back by the energetio Gaul, but times indeed were hard for the vine dressers, when castles were springing up all over the land, when might made right, and the rule of the strong hand was the law of the land, and this was the history for centuries

Is there anything in the ponderous leve of other professious more worthy of study, or of greater interest than all this, tracing, step by step, and century by century, the different methods tried and the different results that followed.

In the distillery is there anything worth studying that calls for skill, for science, or for intellegence? What makes the difference between a good brandy and a fine brandy, the principle of distillation is all the sama.

Some years ago when taking my initatory steps in this business under one of the ablest men in California, and one of the grandest men in the country, I was told to educate my nose, the idea was so funny it made me laugh, but as day by day passed, I found that enlivating the sense of smell was nothing to laugh at. As the price of liberty is eternal vigilance, so is the making of fine brandy the result of constant, careful watchfulness, and as a study. I find it to be very interesting.

The comparison, one week with another, of the product of the distillations of wash or wine, as the case may be, knowing the strength of each change from test distillations and keeping a record of the same, weighing each package as it is filled, and finding out the number of proof gallons in each charge whether of singling or high proof spirits, filtering and reducing, and during the distillation, watching the steam gauge and keeping the steam even, not five pounds too much or five pounds too little, but just right, a little wood now, a little water in a few minutes, a shade more or less draft, this keeps the steam right, and all the time trying the spirits with your nose, to tell just when you have gotten all that your judgement tells you should be put into your brandy tank.

As in the cellar, so in the distillery there is a diversity of opinion about the manufacture of brandy, some will rnn everything out, faints, fusil oil and aldehydes all go, and this is brandy. Others will claim they have discovered a process, where by an ingenious arrangement of pipes and chambers they can at one chauge eliminate every trace of fasil oil and run their product ont to the last drop, or until their hydrometer tanks minus zero.

While others less fortunate only take the old way, and try to get enough to keep Uncle Sam from calling for a new survey and raising their capacity.

A proof gallon 100% of what, spirits? not entirely, 50% of absolute alcohol and 53,71% of water this makes 100%. That is, it takes 50 gallons of spirits and a fraction over 531/2 gallous of water to make 100 gallons of brandy at proof. This is caused by the decrease of volume just as clear as can be, isn't it? The only theory I have for this is, that the spirits being composed of larger globules than the water, when combined, the smaller globules of water so fit into the interstices between the globules of the spirits that some three gallons are lost, as you may say. If this don't account for it, I shall have to study some more on it.

Is it any study to know whether your distillery is making time or not; whether you are overrunning your capacity, or coming out behind; whether your wash is too strong to be classed as such, or your wine too weak for wine? How many have recourse to a revenue broker to keep their books straight! How many have lost hundreds of dollars and endangered their whole plant by a want of knowledge of these things!

If wine-making was nothing more than crushing your grapes into a tank, and getting them through a fermentation after a fashion, then selling the wine right off the lees without a racking; if brandy-making was nothing but to get your charge into the still and turning on steam, and taking everything that comes from the worm, feints, fasil oil and aldehydes-as some have done, to my certain knowledge-then it were worse than folly to waste time on the business. Aside from the thousands of intricate, complex questions forever arising about the manufacture and care of wine and brandy, the fining and blending of the wines, there are questions of legislation to be acted on, questions that require not only a thorough knowledge of the business, but a knowledge of men, of law, and of diplomacy. There are issues at stake that involve not only your own peace of mind, but the safety of the hard-earned dollars you have invested in the business.

the interests of viticulture, and demand that right of protection which they would deprive us of; and by your thorough knowledge of the business, and eloquence, compel them to hear and grant your petition? Is it nothing to enter the field and prove to the world at large, and to prohibitionists in particular, by your force of argument and the inherent consciousness of right, that ours is not the dishenerable business they assert it is. Prove to them that there is as much temperance, intelligence and refinement in our ranks as in any profession, and that wine properly drunk is the best of temperance advocates.

For myself, comrades, the' born and reared in the State of Maine, under the strictest of temperance dectrine, I am proud to be in the ranks of wine and brandy makers, and as a temperance man.

And for our industry, as sure as the seasons come and go, as sure as the tides ebb and flow against the shores of our Golden State, and as solid and enduring as the grand old mountains that rear their heary heads in eternal silence to the sky, so sure, so solid and so enduring will be the glorious future of the grape industry of California.

#### GOOD FOR DIPTHERIA.

The Medical Times says: Alcohol, we make bold to say, is the prince of antiseptics and the most perfect and reliable medicine of which we have any knowledge in diphtheria. Diluted with equal parts of water, and given in small and repeated doses, the malignant symptoms of this most fatal malady soon disappear and convalescence becomes assured. It is interesting to note with what facility the alcohol dissolves the diphteretic exadstion in the threat, lowers the temperature and calms the pulse, showing its destructive action upon the germs of the disease which have been absorbed by the glands and gained access to the blood. This remedy has been used by us in the treatment of diphtheria since 1873, during which time no case of the disease has slipped through our hands except in one solitary instance, and that case was in articulo mortis before the remedy was given. The remedy is also prophylactic to the disease, as we have found in many instances where it has been expedient to quarantine the patient. For this purpose it is only necessary for exposed persons to use the remedy, diluted as above stated, as a gargle, and to swallow a little of it three or four times a day.

#### CURING HYDROPHOBIA.

Hogyes, of Buda-Pesth, has published in the Orensi Hetilep an account of some researches he has made on the protection of degs from rabies by a somewhat simpler method than that employed by Pastenr. He too, makes use of the spinal cord of an infected rabbit, but instead of drying it to a gradually increasing extent to obtain varions degrees of activity, he merely rabs it np with water containing chloride of sodiam so as to make solutions varying in strength from one-tenth to one-five-thousandth. The dog to be protected is injected successively with these, beginning with the weakest. Tha results appeared to be quite satisfactory, and a complete immunity from rabies was secured by six of those injections .- Lancet.

We call the attention of our readers, particularly vineyardists, to our rabbit Is it nothing to he so far up in the pro-fession as to be able to go to Washington in ing Sons Co., 8 California Street, S. F. Proof Netting advertisement of J. A. Roehl-

## Wine Making Machinery.

(The following paper was read by J. H. Heald, of Crockett, before the 8 xth Augual Convention of Viticulturists, held under the auspices of the State Commission.)

Before I say anything about wine making muchinery let us see what kind of a cellar we have to put it into. As it often hap pens the builder never thinks of this subject. I have been often called to put machinery into cellurs and found great difficulty in doing so to any kind of advantage, simply because they did net know what kind of machinery was to be used or how it was to be arranged. New it is of great importance in building a wine cellar to thoroughly understand just what is required before you commence operations.

First, the location; second, the size of the building; third. the kind of cooperage fourth, the kind of machinery to be used

The location, if it is convenient to locaton, a side hill, so much the better as it is hetter in all respects than level ground.

I do not advise a winery to be built over one story high, as I do not like the idea of the fermenting room over the storage cellar, as it is much better to have the two roomso that the storage room will not catch the drip from the fermenting room, and, also for the reason that a single story cellsrear be built cheaper, the walls of a one story huilding can be very much thinner than it of brick or stone and if of wood; a very much ligher frame and just as useful for a cellar as if it costs two or three times as much

When you can get a hillside for a location, excavate the width of the first building for the first story, and directly back of this excavate another place for the fermenting room. The floor of the fast building to be one story higher than the first bailding. The back wall of the first building will be the front wall of the back building, each building to have a light roof which will be found to be much cheaper than an expensive floor, that would be required to hold np the immense weight of wine. In building in this way you have all the advantages of a two-story building without the disadvantages of dripping floors, carrying what you do not want into your storage cellar below. The wine runs by gravitation just as well as if the two floors of the buildings were directly overhead. I would advise parties who contemplate building a winery to use in the fermenting room, tanks, 10 feet diameter by 4 feet, 8 inches high. Make your building 54 feet wide in the clear so as to get in four rows of tanks. By using four rows of tanks you can make one chute fill all the tanks, there should be at least one foot fall to ten feet, and more if convenient. The chutes should be 8 inches wide and I6 inches high.

The crusher and steamer should be placed in the center of the building, I have reference to the width of the building-the center of the width of the building, the alleys should be 5 feet wide and the outside row of tanks should be 11/2 feet from the walk, the tanks should be about 11/4 feet above the floor of the fermenting 100m.

The press should be put in a stationary place, and if possible, set about three feet lower than the fermenting room floor, so as to be convenient to dump the pomace from cans into the baskets of the press without having to shovel the pomace, as this would be teo expensive a way to handle it. The platform or track that leads to the leaching tank should be on the level with the press. It should be a pump without valves, as one ters with a friendly eye.

with valves is very apt to be clogged with the seeds and cause very annoying delays.

The huilding for the fermenting room should have walks about twelve feet high and a roof of one-third pitch, and a guble where the crusher and steamer is to be placed, so as to get the machinery above the walls of the building, or in what might be called the second story. If my crusher and steamer is used, the crusher will stand nine feet high above the floor it stands on. I would advise all to use my elevator for elevating the grapes, as it is the greatest labor saving machine in use for that purpose. I advise the use of the loose grape elevator where it has not to be more than 48 feet long, but if longer than that then I would recommend the box elevator. The ressou why the loose elevator should not be naed when the langth is over 48 feet is that when the elevator is very great it is apt to make a dirty mess of it for the grapes will roll back enough to break the tenderest kind of grapes, The elevator should set at an angle of thirty-five degrees or less, it can be set a little steeper than this, but it is not advisable. If more than one crusher and steamer is used they should be set at least 35 or 40 feet apart so that the teams will not interfere with each ther in hauling grapes to the elevator.

The leaching tanks should be placed ontside of the fermenting room and enough lower than the floor of the fermenting room that the pomace can be dampened from the cans. If this tank can be placed high enough to run or drain by gravitation to distillery so much the better. The distillery should be placed in front of the storage cellar and 100 feet from the cellar, on account of insurance rates. It should be located directly in front of where the crusher is situated The engine and boiler will be in the distillery and for that reason it should be placed so as to use as little shafting as possible. A cable is a convenient way of transmitting the power from the engive to the crusher. I would advise that the floor of the distillery should be placed about one foot below the floor of the surrounding buildings as in case of fire the spirit would not run into other buildings and set them on fire. I have known of cellars being set on fire in this way, in one case at the loss of \$100,000. The distillery should be built of brick or stone and roofed with corrugated iron.

In building storage cellars if location will admit of it, place the floor high enough so you can roll casks into your wagons without skids. As to the size and width of of storage cellars all depends on the kind of cooperage you are to use, and should be decided upon before the building is erected. Avoid having too many windows. Be sure to have windows so the light will shine down through the alleys. In case you are in a hot locality and you wish to use iron for the roof, put the five inch corrugated or the coursest kind in the market, placed on a tight bearded roof. By so deing you will find each corrugation in the iron will make an air duct to carry off the heat, making a much cooler roof than if iron were put on io the usual way.

DUBING the past fortnight, a New York firm received 139 casks of Hungarian wines. This is one of the largest importations of these wines that have ever been made.

THERE is some talk in Berdeaux of organizing a school of viticulture in the Gironde, but it is not regarded in all quar-

#### Wine Cellars for the Interior Valleys.

(The following paper was reat by Frank West, of Stockton, before the Siath Annual Convention of Vitediterists held under the anspaces of the State Communication

In the erection of cellars in the great interior valleys of California, many obstacles present themselves which are not apparent to those wine growers whose vineyards are located in the smaller valleys or on the hillsides

We can not tunnel into the side of a mountain for a collar, neither have we any stone quarries near at hand-hence, we must look to our only available building materials, brick, wood and adobe. The cost of a cellur built of brick is sufficient to place it beyond the reach of many wine growers of limited means.

Cellars can be constructed of wood, double-walled, which will, perhaps, keep a moderately low temperature, but the very fact that all wooden buildings are subject to a heavy fire risk, places them out of the question, except, perhaps, for fermenting houses, where very little valuable property is stored except during the vintage season.

We now turn to the adobe which seems to be really the only cheap and serviceable material for the construction of storage cellars in the hot valleys of the interior. Their durability has been thoroughly proven in the old Spanish Missions built of this material so long ago, many of which are even now in very good repair. As a non-conductor of heat, they are unquestionably bettter than brick and cellars can easily be constructed which will maintain a temperature not exce ding 66° to 65° even during our hottest months. With the exception of our own cellars at Stockton, and those at the various vineyards around Freamo, I have never seen any adobe cellars in the State, and a few facts concerntheir cost and construction will perhaps be of interest.

#### FOUNDATION.

It is policy in all cases to put a foundstion of brick or concrete under an adobe building, and if gravel or good hard pan is at hand to be used in making concrete that is by all means the cheaper and better material to use. Broken rock or "clinkers" from brick-yards may be used. Concrete is cheaper for the reason that it can be laid quicker and no skilled labor is required. A few small experiments will soon demon strate to any practical man. What proportions of cement mixed with gravel or other material, will make the best union? We generally use one part cement to eight or nine parts of moderately coarse gravel.

The depth of the foundation must probably depend upon the location of the building, but we have found a foot of concrete twenty-two inches wide sufficient to sustain the walls of a cellar fourteen feet high and eighteen inches thick. The concrete should come a little above the surface of the ground to keep the moisture away from the bottom of the adobe wall.

In the manufacture of adobes, which are simply san dried bricks, the first step is to find a soil which, either by it-self or mixed with sand, will make an adobe which will he hard and at the same time will not crack. This can easily be accomplished by mixing a small lot of mad, leting it soak over night and moulding a few adobes the next day. One day's exposure to the sun will prove whether or not they are going to crack. Great care should be taken not to use soft adobes. I have seen walls built of adobes in which sediment from the rivers had been | for 1,200 square feet of wall.

used in quite a large proportion. slightest moisture would cause these walls to crumble, and it was almost impossible to protect them from the rain. The regular moulds for making adobes are old-fashioned brick moulds, but larger in siz . The process of manufacture is the same. We have always used adobes 3x6x12 inches, while in Fresno the size is generally 4x8x16. Regarding the comparative merits of these different sized adobes, I am not prepared to express an opinion.

Adobes of the size first mentioned can be made by contract for \$4.50 to \$5 per M and laid in the wall for \$6 per M by skilled labor. In this connection I would state that skilled labor is not necessary in laying adobes. It is plain rough work, and any ordinary laboring man will soon learn to lay them as well as a masen. As a proof of this we have in Stockton a cellar built fifteen years ago with unskilled labor, the walls of which are as sightly and as well constructed as any we have since had built by masons. However, if one is not prepared to give his personal attention to the work, it is perhaps better to use skilled labor. I make the allusion to unskilled labor for the benefit of those who wish to construct small cellars for the least possible cost, and are prepared to devote their entire time and attention to the details of the work.

Adobes may be laid in either mud or mortar, the latter being more expensive but a little better. To show the comparative cost of brick and adobe, 1000 adobes 3x6x12 can be made and laid for \$11 per M, while bricks 2rtx8 cost with ns \$15 per M. An adobe being three times the size of a brick, 1,000 adobes at \$11 will occupy the same pace as 3,000 bricks at \$15 per M or \$45. Hence an adobe wall costs only about onequarter as much as one of brick. It may be that adobes of the size used in Fresno will make even a better showing.

The walls of a cellar having been constructed, the next move is to lay the ceiling. The size of the floor joists will depend upon the width of the span between supports.

We use 2x12 timbers 24 inches apart for 20 feet spans. The floor should be of redwood and should be covered with a layer of adobes and mud five or six inches thick. This serves to keep an even temperature, and another great advantage is derived from the fact that there is absolutely no connection between the roof and the wood work in the cellar. The building is rendered thereby as nearly fire proof as possible. In fact, experienced firemen have expressed the opinion that the roof of a building so constructed could burn without injury to the interior of the cellar. We bave had reference to buildings of one story, The roof of the cellar may be of tin, corrugated iron, shingles or shades. The latter would be the cheapest material. Roofs should project three or four feet. Unless the walls of any adobe building are projected from the rain by sheds, they must be protected by some coating which will be imper-

Cement is the material generally used, but the objection is raised that it is almost impossible to prevent its cracking, for the reason that cement will not adhere as well to adobe as to brick. A thick coating is usually applied, but from experiments we have recently tried, we are convinced that plain cement mixed with water and applied with a brush is far better, and is certainly cheaper. One barrel of cement is sufficient

Minturn, Fresno county, a mixture of coaltar, salt and potash was used, and I am convinced is more perviceable than cement. The proportions used were five gallons of coaltar to one pound of potash, and five pounds of salt dissolved in hot water. This mixture should be heated when applied, an ordinary white-wash brush being used in putting it on. It should be applied in the summer, or at any rate before rain. Two coatings should be used. This of coarse gives the buildings a sombre appearance, which many would object to, but cement can now be applied better than before as i has a harder surface to adhere to.

Many wine cellars in Fresno are cemented and blocked in imitation of stone, and the finish is certainly very handsome. The work is, however, quite expensive. The appearance of an adobe building can also be improved by putting on a brick front, laying a course of brick in the front of the adobe wall, laying it at the same time. Any design may be selected, and the adobes being connected the whole building has the appearance of brick.

We have adopted this plan in our buildings, crected in the past two years. In conclasion there seems to be no reason why adobe cellars should not be more generally used in this State. They are much cheaper than brick, cost only a little more than wood, and on the whole seem particularly adopted to our wants.

#### ANOTHER TRIAL FOR SORGHUM.

At brief intervals, says the Analyst, for the last ten or fifteen years, glowing prospects have been held out to such dealers in sugar as would consent to abandon the beaten track and enter upon the manufacture of sorghum sugar. As long ago as 1879. Dr. Collver, who was at that time Chemist of the Agricultural Department at Washington, had this to say on the subject: "If they will give me ten acres of ground to experiment on next season, I will return twenty acres of raw sorghum sugar fully equal to the best raw cane sugar or forfeit my reputation. The corn crop of Illinois is worth about \$75,000,000; if they will devote one-tenth of the acreage to sorghum of the best variety, they can raise sugar equal in value to the whole amount now imported, which is about \$109,000,000." Professor Collyer also reports the auccess he had met with in extracting sugar from ordinary white field corn, which was remarkable enough to entitle it to a place in any sugar discussion. From an acre of land planted with corn known as the horsetooth variety, he gathered the ears when fully ripe, and their yield of shelled corn was sixty-nine and one-tenth bushels, or over double the average yield per acre of the whole country for that year. Then from the stalks he extracted 960 pounds of raw sugar, and left something yet to be used as fodder. The idea of procuring sugar from corn stalks is not a new one and did not originate with Professor Collyer. It is said to have been long practiced in some parts of Mexico, and in a letter to John Adams from his wife, dated September 24, 1777, she gives an account of its being done in Massachusetts during the Revolutionary war. So far, however, alll devices for ex tracting cheap and good raw sugar, either from corn stalks or sorghum, have met with ignominious failure, unless, indeed, the latest attempt, which has not yet proceeded far enough to be rightly judged, should happily prove an exception. The scheme endured, in small quantities at a time.

At the winery of Wabster & Sargent at is briefly this: A Boston company is formed with a capital of \$200,000, which will be increased to \$1,000,000 if the result of the first year's experiment is satisfactory. During the year they will erect three factories in addition to the one already owned by them at Port Scott, Kansas. One of the three factories will be located at Topeka. Kansas, but the situation of the others has not been settled. Kansas towns are eagerly competing for these works, one town going so far as to offer not only the land, but a bonus of \$10,000. The parent company will own a controlling share of the stock of each local company. It is unfortunate that one of the first duties of the company will be to fight the Government on their patents, the Government claiming that Professor Swenson, the patentee, made his discoveries while under Government employ. The company claim, on the other hand, to have plenty of proof that he made his discoverica before entering the employ of the Government.

# ANTIDOTES FOR POISONOUS CHEMICALS.

Many serious aecidents, says the Moniteur des Produits Chimiques, happen in consequence of a loss of time in the application of remedies in the case or absorption of, or burning by, such poisonous chemical products as are commonly employed in the industries. The following antidotes are recommended:

- 1. For phenie, sulphuric, muriatic, nitric or nitro-muriatic acida, creosote, tincture of iodine, or phosphurus, use the white of an egg well beaten up in water, and a teaspoonful of mustard in warm water. In case sulphuric, "nitric," or muriatic acid has been swallowed, it is necessary to take lime mixed with as small a quantity of water as possible.
- 2. For chromic acid, the chromates, and colors that have chromium for a base, the compounds of copper, and such preparations as have antimony for a base, (such as tartar emetic,) and the compounds of mercury and zinc, use the whites of eggs in abundance, and, as an emetic, mustard, which, however, is useless if the poisoning has been done by tartar emetic.
- 3. For ammonia, soda, potassa, the silicates, and the alkaline hydrosulphates, use vinegar and afterward oil or milk.
- 4. For prassic acid and its salts, the cvanides of potassium and mercury, the sulphocyanides, oil of bitter almonda, or nitrobenzine, pour water on the patient's head or spinal column, and put mustard plasters on the sole of the feet and the stomach. Do not let the patient go to sleep.
- 5. For ether, petroleum, benzote, fruit essences, and concentrated alcohol, take strong mostard as an emetic, with much warm water, cold baths, and fresh air. Keep the patient awake.
- 6. For the compounds of baryta or lead, use mustard as emetic, with warm water, Epsom salts or Glauber's salts in water.
- 7. For arsenic and its compounds, use mustard, and dialyzed iron with magnesia, and afterward oil, milk or macilaginous
- 5. For exalic acid and its salts, use lime or lime water, and afterward castor oil.
- For nitrate of silver, use kitchen salt 9. dissolved in water, and mustard as an
- emetic.

  10. For the nitrous fames from the man-

#### WINES.

#### Examination for Adulteration of the Wines, analyzed by the United States Department of Agriculture.

In the absence of any well-refined national standard as to what shall constitute a pure wine in the United States, or definitions and limitations as to the nature of the liquids which can lawfully be sold as such, I have had recourse to the well-defined and carefully worded laws of Germany and France which deal with the adulteration of wines, some of which, together with the accepted methods for the detection of adulteration as agreed upou by chemists of prominence in those constries. I have collected together and inserted at the close of the Bulletin, under the heading of Appendix B.

The only state law I have been able to find which deals specifically with wine is a recent enactment in New York, which is also given in full in Appendix C.

The nature and extent of the different kinds of adulteration as shown by the samples examined may conveniently be taken up in the same order as was pursued in treating of the methods for detecting them, and of these the first is the dilution or watering of wine.

THE DILUTION OR WATERING OF WINE.

It would seem natural that in American wines, which can be produced so cheaply and wines): in such great abundance, this adulteration which is such a favorite oue with the mannfacturers of the costly wines of Bordeaux, Burgandy, etc., would be very rare. The fraud is so simple, however, so easy of execution, and so difficult of detection, that it will probably always be a favorite one with anscrupalous dealers. It must be remembered, also, that with many American producers, whatever article they produce, more attention is paid to its quantity. Wine growers are not the only persons that practice this method, as it can be done also by merchants and retailers, although in the latter cass it is much more easy of detection. That which might be called scientific dilution, by means of the processes already described (petiotization, etc.) is much more difficult of detection than the simple attenuation of the wine by the retailer. So little official supervision has been exercised over the wines sold in this country, that certainly the fear of detection has not operated very largely as a preventative of this, or in fact any other adultera-

In Dr. Baumer's work, which has already been alluded to, and to which I shall have occasion to refer frequently as constituting, small as it is, the only published investigation of American wines for adulteration. none of the samples fell below the German standard in percentage of extract (1, 5. grams per 100cc.). On the other hand, nearly all the white wines which I submitted to a complete analysis, fell below this standard, and two of the red wines. A large number of the samples analyzed by Mr. Parsons also fell below it. That this limit is not placed at too high a figure, for Californis wines at least, seems evident from a study of the table I have prepared of Professor Hilgard's analyses of pure wines, from which it appears that only one series of analyses gave a minimum below it, while the averages are far above. It might possibly be too low for Virginia wines, but the majority of those that fell helow it were of California origin. The New York law specifies "that such pure wines shall conor other undried fruit juice." Just how a chemist, in the absence of legal definitions of what shall constitute "a pure grape or other undried fruit juice," is to decide upon the question of such adulteration by the above law is difficult to indicate.

#### PLASTEBING.

American wines would seem to be quite free from this form of adulteration. Baumert found no undue excess of sulphates in the samples he examined, but refers to a sample analyzed by Stutzer, which contained in 109cc, 141 gram SO3. In my seventy samples I found none which exceeded the generally adopted standard of 092 grams SO3 to 100cc., or 2 grams K2SO4 to the liter, and only three, Nos 4100, 5107, and 5115, which contained SO3 , corresponding to over 1 gram K2SO4 per fiter.

#### FORTIFICATION.

It is evident that the German standard of 100 parts of alcohol by weight to 7, of glycerine, which is relied upon as a means of detecting the addition of alcohol, cannot be applied to American win s. Only three of the samples would pass muster by it, and it seems hardly possible that the practice of adding alcohol could be so wide spread as would be thus indicated.

Below is given the number of grams of glycerine for 100 grams of alcohol obtained in the samples (exclusive of the sweet wines).

	4995	7. 1	5104	3, 5
	l 4996	5. 6	4997	
	5005	9. 0	4998	4. 7
ı	5084	6. 7	5998	7. 3
ı	1 5088	4.5	5000	
1	L 5094	5.7	5081	3, 7
1	5095	3.4	5083	4.3
1	15098	4. 3	5097	6. 5
1	1 5100	3, 1	6098	
ì	5101	6.3		
	E169			

Aversge..... 5, 1 Baumert obtained very similar results; ont of thirteen analyses (including sweet wines) made or collected by him only four contained a larger proportion of glycerina to alcohol than 7 to 100. Unfortunately no determinations of glycerine were made in the pure wines analyzed by Hilgard; so no light is thrown on this point by them. The only possible way of deciding it, together with other questions relating to the composition of American wines, would be by the analyses of a large number of wines known to be pure. In the absence of such evidence, it would be useless to attempt to pass judgement on the above samples as to whether they had been fortified with alcohol or not.

The New York law allows of an addition to wine of "pure distilled spirits to preserve it" not to exceed 8 per cent, of its volume, which, supposing the wine to contain originally 10 per cent. by volume, would give a wine containing at least 17 per cent, by volume, or about the highest amount of alcohol which could be formed in a fermented liquor.

The sweet wines are, of course, well known to be fortified; they will be trested of more fully further on.

#### PRESERVATIVES.

Especial attention has been given in the present investigation to the use of improper preserving agents in fermented drinks. It was thought that such agents were much used; so a considerable number of samples were purchased, and the examinations for preservatives, as well as for other adulterations whose detection did not require a complete analysis of the wine, was extended to all. The results show the practice to be more extensiva than was supposed.

specifies "that such pure wines shall contain at least 75 per centum of pure grape ples salicylic acid and sulphites were defined. Baumert obtained the same test in essences,

tected. In the case of the sulphites, where a "trace" is indicated, there was not sufficient to justify the assertion that a sulphite or sulphurons acid had been added directly to the wine; in such cases it probably came from insufficient cleansing of the casks. Where it is indicated as "present," however, there was sufficient indication of its having been added to the wine.

EXAMINATION OF WINES FOR PRESERVATION.

Made Salicylic

)	Made Salicytic	
	Designation in acid. Surprites.	
- 1	ChampagneN. YNoneNone.	
:	4 (1	
	" Ohio " , "	
-	" " Present.	
,	Burgundy "None,	
ſ	Virginia Seedings " "	
	Catawba	
1	Sweet Scuppernong N. C None "	
.	Charbone	
'	Lenoira	
1	St Macaire " " " "	
	Angelica	
	Burgundy "Trace.	
	ClaretNone.	
	Moselle " Present.	
П	Riesling, Gray Present None.	
1	Riesling, Johannisburg. " Present.	
	Santerne " None "	
.	Sherry " Present None,	
ŝ	Sweet Burgundy " None "	
1	Sweet Muscatel " " "	
	Tokay " "	
	Zinfandel " " "	
	Catawba	
1	Californ'a Hock " Present.	
. }	California Riesling " Trace.	
	Purgundy "None.	
	Zinfandel " "	
ı	St. Ju'ien Claret "Trace.	
. 1	Sweet CatawbaN. Y " None,	
ī	St. Julien ClaretPresentTrace.	
d	RieslingNonePresent.	
١.	Sherry	
3	Port " "	
1	Muscatel" "	
J	AngelicaPresent	
,	Claret	
	Z niandelCal	
1	Claret	
3	ticlifornia Donor	
3	Clarit Va (4	
1	ii N. J. Present II	
1	" Va Nano "	
١,	Catawha Present 4	
1	Claret	
3	41 41 48	
٠ ا		
	anterne " Present.	
:	Hock Present . "	
	California Becune " None,	
	Sweet Catawba "Trace.	
.	California Gutedel ' Present.	
	ClaretVaVaNone	
1	California Zinfandel " Trace,	
. 1	California Port	
-	Sonoma PortPresert. "	
1	California Angelica	
- 1	Frontignan	
1	Old Pale Sherry	
	California Zinfandel Present Trace.	
	Gutedel Hock CalNone	
.	Berger HockPreaent.	
	California Madaira H H Mana	
	California Flort	
	California Tokay	
	California Frantisman II None	
1	California Appralian # # # #	
	California Rever Hock 4 1 Present	
	Designation in acid. Surphites. Champagne. N. Y. Nona. None.  """""""""""""""""""""""""""""""""""	
1	From an examination of this table it will	

From an examination of this table it will be seen that of seventy samples examined, eighteen, or over one-fourth, had received an addition of salicylic acid, and thirteen had been preserved by the use of sulphnrous acid, either as such, or in the shape of a sulphite. In to cases both agents had been used. One of the samples which contained salicylic and also one containing sulphites were among the samples exhibited at the meeting of the National Viticultural Convention last year in Washington.

The question of the propriety of the use of preservatives has been very fully discussed in previous pages, and will not be further enlarged upon here.

Banmert found no salicylic acid in the samples examined by him, and only traces of sulphurous acid.

The examination of the samples for boracic acid gave such peenliar results that I hesitate about pronouncing positively upon them until I shall have had opportuoity to investigate the matter more closely. The test with tumeric paper gave slight traces present in all but two of the thirty-six samples which were submitted to a complete analysis. With only a very few, however, could any test be obtained with the alcohol flame. Baumert obtained the same test in

every one of the samples he examined. He seeks to account for this by the fact that plants have been known to assimilate borncic acid from the soil, and knowing that in soms parts of California the soil contains considerable quantities of horax, he offers it as an explanation that it was taken up by the vine from the soil. This explanation seems hardly tenable, and in view of the fact that some of the samples I examined came from various parts of the country other than California, must be thrown aside as jusufficient. It is a singular fact that both of the samples in which I failed to get the test, Nos. 5087 and 5102, were Catawha wines.

I can offer no explanation of the matter except the suspicion, which I hope to be able to investigate, that the trouble fies with the test.

#### ABTIFICIAL WINES.

No test for free tartaric acid was obtained with any of the samples, which would seem to iudicate that none of the wines were artificial wines, in the make-up of which free tartaric acid is very apt to figure.

#### COLORING MATTERS.

All of the samples of red wines, about forty, were submitted to a search for suiline coloring matters, which resulted in the demonstration that one sample out of forty—No. 4996—was colored with an analine dye-stuff, probably fuchsine.

Baumert found one of his eight samples to be colored artificially with an ansline dye.

No search was made for foreign vegetable coloring matters.

#### SWEET WINES.

It would seem ndvisable to call attention to the very variable character of these wines, as shown by the analyses. Considering the extensive use that is made of such wines for medicinal purposes, it is greatly to be desired that some standard should be required for their composition, or that their relative content of alcohol and sugar, at least, should be stated on the label, as is required by the Bavarian authorities.

Among Mr. Parson's samples will he found a "Sweet Muscatel," which contains as high as 31 per cent, of sugar, and a "California Port," which contains nearly 21 per cent. of alcohol by weight. The analyses of the sweet wines made by myself furnish a still poorer showing, for the low figures obtained for glycerine show that very little pure grape juice enters into their composition. Take the different samples of Angelica and Muscatel wines, for instance. These varieties are almost peculiar to California; they are made from a very sweet grape, of strong flavor. Comparstively few analyses have been made of them, but Baumert had among his samples two Muscatel wines and one Angelica. These contained the following percentages of glycerine: Muscat (H), .883; Muscat (W), 1.424; Angelica, .698.

Compare these numbers with the percentage of glycerine contained in the following: 5003. Muscatel, .102; 5092, Muscatel, .103; 4994, Angelica, .140; 5093, Angelica, .052.

These results are so disproportionately low as to give strong ground to the suspicion that but very little of the pure juice of these strong-flavored grapes entered into the composition of the samples I examined, but that they were chiefly composed of alcohol, sugar and water. It would be au sasy matter to imitate the strongly-marked flavor of the grapes by means of artificial essences.

California wine growers claim that they have in their very pure grape brandy an excellent and unnbjectionable source of alcohol for the fortification of sweet wines. but certainly the samples above partake more of the nature of a liqueur than of a natural wine.

The followine table gives a classification of the wines analyzed in the Paris Municipal Laboratory, during the years 1881 and 1881, showing the proportion which was declared adulterated, and the relative amount of the different varieties of adulteration as shown by the samples analyzed. It must be remembered that these analyses were made on suspected samples, and do not by any means represent an average of the quality of the wines sold in Paris. 1991 1991

Number of samples analyzed		,3,361	5,150
Good			893
Pawable		1.093	1,590
Diseases of wios (acid, bitter,		, -,	
moldy, etc.]pe	r cent	6.51	5.21
Fortified	4.0	9.55	7.32
Wipes not plastered, or plas-			
tered less than 1 gram	5.6	24 45	25.47
Wloes plastered between 1			
and 7 grams	84	52.53	41.49
	6.0	23.02	33.04
Wines pastered above 2 grs	11		
Watered	**	41.12	29.15
Sugared an   petiatize	14	3.30	6.62
Artificially colored	4+	15.65	7.686
	Pa	4.73	5.00
Salicylated			
Salted		0.18	0.05
Deplastered	4.0		0.11

A wine may be counted several times in this table. For iustance, if it is at the same time watered, fortified too much. plastered and artificially colored. total of the percentages, therefore, adds up to over 100.

The samples analyzed by me may be tabulated as follows:

Total number analyzed	
Plastered between 1 and 2 gramsper	ceat 4.38
Watered (according to European stan-	
danis)	12.85
Artificially colored	1.43
Salicy lated	25.71
Sulphured	15.57

The percentages are of the total number analyzed, not of the number adulterated, as in the French wines.

#### A PRIZE COMPETITION.

A prize is to be awarded in 1890 in Zurich, Switzland, for the following researches in natural history; "New investigations are desired regarding the relation which the formation of the bones bears to the statics and mechanics of the vertebrate skeleton. The results of the investigations as a whole are to be demonstrated in detail by way of example on the skeleton of a definite species." The conditions are as follows: Competitors for the prize must send in their work in German, French, or English,, by September 30, 1890. The award will be made by a committee consisting of the following gentlemen: Professor Hermon von Meyer, Znrich; Professor L: Rutimeyer, Basle; Professor II. Strasser. Berne; Professor Otto Mohr, Dresden, and Professor Albert Heim, of Zurich, representing the committee offering the prize. The judges are authorized to forward a prize of 3,000 francs; and a further sum of 1,000 francs is placed at their disposal for distribution in minor prizes according to their discretion. The work awarded the first prize becomes the property of the Foundatien of Schnyder of Wartensee, which will arrange with author regarding the publication of the same. Each competing work must bear on the title page a distinguishing motto, and must be accompanied by a sealed envelope containing the name of the author, and bearing on the outside the same motto. Competlug works are to be sent in by the date named, to the following address: Au das Prasidium dee Convents der Stadtibibliothek in Zurich (betreffend Preisaulgabe der Stifting von Schuyder Wartensee fur 1890,"

#### RAISIN GROWING

Mr. B. F. Jackson in the Yolo Mail gives the following estimate of the cost of enltivating, euring and boxing for market one acre of unture raisin grapes. I have a repugnance of giving away a business in detail that I am engaged in, and do not intend to give you all the particulars, but seeing so many Manchausen amounts in the papers of extravagant profits in fruit culture that I feel like telling those who are amateurs and think of engaging in the fruit business something like the truth about it, and will assure them without the fear of successful contradictions that if they start with the idea that they can pay they expenses of a raisin vineyard in foll bearing, say one ton of raisins per acre with \$10, or plant a fig orchard and the fourth year gather a ton of dried figs per acre, and enough green to pay expenses, they will be decidedly disappointed. That such feats can be accomplished we have the assurance of the Yolo papers. That this superior xtravagance was accomplished in Yolo county, with the editor's comments that those who would not be satisfied with that would want the earth and a barb wire fence around it. My estimate of expense is with white labor and that a day's work, wages and board per day \$1.50 will give the expense of cultivating in detail and the picking and enring the grapes into raisins, the estimate to be one ton of raisins per acre. one-half son dried the other half cured in drier.

Expense of cultivating raisin grapes one, ton raisius per acre.

To shoveling around vines and pruning \$ 8.2	5
To burning brush and irrigating \$ 2.5	'n
To twice plowing 4 0	
an anice brownig 4 0	
To twice cultivating and twice harrowing 2.0	0
To shoveling around vines after plowing 1.0	o.
The state of the s	
For sulphur, and labor putting it no the vines 1.0	U-
Picking, curing and putting in sweat-box one-	
half ton sun-dried	0
Pickleg, curiog and putting in sweat box one-	
half ton drier-cured	0
	v
Packi g 100 boxes, half loose, half London	
layers	0
Cart of 100 haven sheemen and use as 343.0	0
Cost of 100 boxes, chromos and papers 12.0	U

You will perceive this charges only labor and expense account-nothing for interest on investment, which should be reckoned at \$200 per acre value, interest, \$16. It is the writer's opinion the froit business does not need booming. There is more fruit planted than there can be a profitable use made of. To illustrate the effects of booming where they made the boom work. I will copy from the last Rurol Press part of an interview with Professor Budd. He says: "In connection with an old resident, we made a careful estimate of the losses the past season around a noted fruit town in the south part of the State. The land for miles around the town has been planted in a mixed way by amateurs, in plots ranging from two to fifteen and twenty acres. We found that the crops of over 200 acres of peaches, 150 acres of apricots, over 50 acres of prones, 200 acres of grapes, and many scores of acres in the aggregate of apples, pears, plams, cherries, quinces, olives and slmouds, had been permitted to go utterly to waste." This article would be too long should I attempt to bring more proofs to show that fruit planted in a haphazard way by amateurs disappoint many. "Amateur" is a very conspicuous word in fruit culture in its present stage, and he thinking of commencing wants to learn the full definition, and see if he is one. If you find you are, own up; be cantions; don't get on an excursion train to a strange town and buy a piece of land at auction. Find some place where you think you would like to understood by the blend adopted by Mr.

making money raising fruit; then if you like it and think you can make it pay, buy your land and g t posted as fast as you can. Your assistants you will find mostly ama-

#### CALIFORNIA WINES

#### What an Enterprising Californian I trm has done for the Champagne Trade

The Analyst at all times exhibits a lively interest in the welfare of our California Industries, more especially towards that of the manufacture of native wines. In a recent issue under the above heading while criticizing with its wonted severity the actions of soure unsernpulous manufacturers, it pays the following well merited compliment to the enterprise and fair dealing of one of our leading local firms, which it is a pleasure to reproduce in these columns:

It is indeed a pity that the champagne trade of the California product should be so badly handicapped by the fickleness of Madame Fushion on one side, and, what is infinitely worse, the villainy of nascrupuloos manufacturers on the other. There are bogus champagnes as well as bogus pianos. In San Fraucisco, for instance, are several concerns who pretend to manufacture champagne by pumping gas, generated from vitriol and marble dust, into inferior still wines, and palming the poison of to the unsuspecting many as natural made California sparkling wine. And the reputation, so nobly fought for and won wherever the pure California champagne has found au eutree, is being sorely undermined by these false pretences.

When Americans learn to be honest with themselves by acknowledging true merit in their own products, California champagne will occupy a very prominent position.

Probably the largest concern on the Paeific Coast who have constantly made only pure wines and have had to fight the most unserupulous competition, is that of Arpad Haraszthy & Co., of San Francisco, Mr. Haraszthy is President of the State Board of Viticulture and owner of the largest champagne establishment in California. A native Hungarian, one of the greatest wine growing countries in the world, with the experience obtained by a long residence in the champagne district of France, he has probably had the best practical and theoretical experience as a wine grower.

California champagne dates back to 1862, when the first successful experiments were made. As our renders well know from numerous articles we have published from time to time, champagne is produced by a blending of diff rent wines, for no one wine will sparkle by itself. By asc adiug to a loft wo find blended wines in easks. which are being kept for from one to two wenra before being put into bottles. is called the cuvee, and means a mass of wines formed by mixing the different varieties of grapes, which by their differing natural character, improve and complete each other in such a state of combination established by the operation of blending, It is necessary to ascertain the exact proportions of aicohol, sugar and acid, or the mousse (the spark! ) of the wine will be too violent in one case or there may be no sparkle and the wine be tlat. The wines are chosen for their color, lightness of body, sacebarine properties, alcoholic strength and bouquet. They are blended in a vat holding 12,000 gallons of wine. The intricacy of blending is perhaps beat live, look up those who are evidently Haraszthy for 1883, 1884 and 1885

The blend for 1883 was made in four tauks of 12,000 gallons each, comprising,

	Gallons
White Zipfandel of 1882	 .6,000
Orleans Riesling of 1882	
Feber Szagos of 1851	
Chasselas of 1882	
Burger	 1,000

The blend for 1881 was made in five tanks of 12,000 gallons each, viz.:

	Gallqus.
White Zinfandel of 1882	4,000
White Zinfandel of 1553	2,000
Barger of 1883	
Orleans Riestlog	
Chaselas of 1884	
Feher Szagos	300

The fluid of 1885 was made in six tanks of 12,000 gallons each, viz.:

White Zinfandel of 1883	5,000
White Burger of 1884	2.000
White Colombar of 1885	
White Malvoisie of 1881	1,400
White Verdal of 1884	500
Grav Riesling of 1851	
Meanier of 1883.	
Franken Riesling of 1884	400
Falle Blanche	

Which tables not only show a gratifying increase in the volume of the firm's trade, but the greater perfection obtained annual-

The making of champagne is nothing ew. We will not describe it again, but only say that this firm uses only new and the most expensive corks coming into this market.

The three leading brands of California champagnes are "Extra Dry Eclipse," 'Grand Prize' and "Sillery Mousseaux." All these brands are exported largely to Mexico, China, Japan, Sandwich Islands, England, South and Central America, and will supersede the French brauds in this country as soon as the wealthy Americans cease to purchase oil paintings by the yard and guage the quality of champagne by the enthusiasm of the price.

With this brief sketch before us, a word or two regarding the great house of Arpad Haraszthy & Co. appears apropos. The firm is now composed of Henry Epstein and Arpad Haraszthy, and was originally established in 1864. It is the only house in the State which was ever able in all these years to turn upon the market continuously first-class champagnes, produced only by the natural process, that of fermentation, in the bottle. In the pr paration of their champagnes no grain spirit or cognac spirit of any kind is used, Mr. Haraszthy's ambition being to make wine that is absolutely pure. That he has succeeded is shown by the rapid increase in the sale of his champagnes, which aggregated 9,000 cases in 1880 against 14,000 cases in 1886, of which 3,000 cases were sold by the New York agency. The choicest still wines of California bear their brand, and their immense cellars are filled with all kinds of California wines, hocks, Burgundies, clarets, brandies, etc., with a total enpacity of 500,000 gallons. They own the Orleans Hill Vineyard in Yolo County, planted in 150, and comprising 700 acres planted with 360 acres of the finest grapes, comprising all the Medoc varieties and many from the Burgundy, Champagne and Rhine wine districts, numbering some 45 varieties. These are used to test the soil, climate and the adaptability of these varieties thereto. In a future article we shall speak of some of the other kinds of wine made by this truly progressive American firm,

REPRESENTATIVES of the well known houses of Haraszthy & Co. and Kohler & Frohling, vineyard proprietors, California Wines and Brandies, have been canvassing the Boston trade lately, with much success.

#### PRESERVATION OF WINES.

On the preparation of Wine for Preservation, F. E. Engelhardt, Ph. D, writing in the Analyst says:

During the time which clapses from the pressing of the grapes till the wine is put into the market for consumption, it has to be kept with the greatest care. Neglects in treatment and preservation during this period produce some changes which may become very serious if not at once attended to. It is not my object to enumerate all these changes. I will only speak of one change in particular and give the remedies usually employed and recommended against these changes.

The souring of the wine is the most dangerous one of these and is due to a great access of air to the wine. It is preceded by the appearance of mould (myco-When the souring of the derma vini). wiae just begins it is drawn into a clean cask, previously sulphurized and then cleared with the white of eggs. Since new oaken casks contain tannin we might think that they would assist in separating the foreign matter from the grape juice, But they cannot be used directly, because the peculiar amell and the extractive matter of the wood would go over into the wine; hence new casks are first washed out with a diluted bot solution of salt water then well soaked and rinsed with pure water. Now, a quart of alcohol is poured into the casks thoroughly shaken with it, so that the alcohol comes in contact with every part of the barrel inside, and then the alcohol is aet on fire and while burning the young wine is poured into them.

The sulphurizing of the wine casks consists in burning in the casks narrow strips of cotton or linen cloth saturated with sulphur. The sulphur while burning produces sulphurous acid, which not only fills the cask, but also penetrates into the pores of the wood. The antiseptic properties of aulphurous acid are so well known that I need add nothing further.

If the avidification is a little more advanced finely powdered charcoal is mixed with the wine and the latter after some time drawn off into another cask and clarified.

The addition of small quantities of finely powdered quick lime or carbonate of potash to the wine are used for the same purpose. Rhine wines that become sour are usually cleared with a mixture of honey and skimmed milk. The addition of grape or cane sugar, together with some yeast to induce a new fermentation in the wine, is also recommended; but the only certain remedy against this difficulty, when it first commences, is the heating of the wine to about 145° Fahr, according to the method of Pasteur, thereby killing the vinegar ferment-mycoderma aceti. If the change is too far advanced the wine must be made into vinegar.

The following list gives most of the remedies recommended; Still must, grape sugar, cane sugar, wine yeast, honey, boiled grape juice, juice of Spanish raisins, tannin, cream of tartar, tartaric acid, carbonate of potash, charcoal, quick lime, carbonate of lime, lime water, bi-sulphite of lime, salicylic acid, alcohol, brandy, skim milk, etc.

When the wine, during the process of ripening, does not become perfectly clear, the last remnants of the suspended matter are removed by artificial means: White of eggs, animal jelly, isinglasa, gum-arabic, island moss, gelatine, native alnmina sense of the word."

(Tierra del vino in Spain—Kaoliu in Germany), blood, milk, filtration with the exclusion of air, charcoal, etc., are the means usually employed. Mr. Dyer patented, in 1835, in Eugland, a clarifying powder, which was composed of dried blood, dried white of eggs, dried bonea of young animals. When used, this powder is stirred with water, left standing for eight hours, and then mixed with the wine.

I stated above that for the production of wine possessing the finest qualities, the grapes must obtain their highest degree of ripeness, which, of course, can only happen in the most favorable years in the greater part of the wine producing countries. In ordinary or poor wine years only a very inferior wine can be produced. To remedy this difficulty the celchrated French chemist (and Minister of Finance) Chaptal, recommended in his essay, "The Art of Making Wine"—" In case the grapes have not obtained their maturity add to them until the must has attained the sweetness of the perfectly ripe grape."

The so-called chaptalizing of the grape jnice consists in removing from the latter the excess of acid by the addition of marble dust or wood ashes and then adding to it the required amount of sugar. Sixty parts of free acid to the jnice are neutralized to fifty parts of marble dust. The quantity of sugar to be added depends partly on the quantity of sugar present in the jnice and partly on the amount of alcohol required in the wine; hence if the grape juice has but 12 per cent. of sugar and a wine shall be produced having nearly 10 per cent. of alcohol, 8 pounds of sugar must be added to every 100 pounds of grape jnice.

This method is especially in use for the production of Burgundy wine. It is well adapted for "bouquet wines," since their peculiar characteristics are thereby not weakened.

Fortifying wines consists in the addition of brandy, Cologne spirits, or French spirit to the wines to increase their alcoholic strength and to stop further fermentation. This method is especially practiced in the aouthern part of Europe, Portugal, Spain, France, Italy and Greece.

Dr. Gale's method consists in the preparation of a so-called normal must, with 0.5 to 0.5 per cent. of free acid and 22 to 24 per cent. of sugar. Hence, if a must contains from 1 to 1.2 per cent. of acid it is mixed with an equal quantity of water, and if the sugar is equal to 20 per cent. in the grape juice we must add 14 parts of sugar to every 100 parts of grape juice. This method is especially employed in Germany in bad wine years and for unripe grapes.

The method of Petiot of improving wine, and especially of increasing its quantity from 100 to 500 per cent, dates back to 1852. In this year Petiot produced from a certain quantity of grapes instead of 7,200 quarts no less than 34,200 quarts.

First, he added to the expressed juice an equal volume of sugar water containing the same amount of sugar as the expressed inice.

Secondly, to the remaining grape pulp he added a new quantity of sugar water with 18 per cent. of sugar, and fermented it for three days. This latter experiment he repeated three times in succession with the same grape pulp, and sugar adultions of the same strength, namely, from 22 to 23 per cent. of sugar, obtaining this after fermentation, as he says, "Wine in the full sense of the word."

The infusion wines (trester wine) resemble, according to Thudichum and Dupté, "natural wines in all essential qualities; they contain all the essential ingredients, and almost in the same proportions as the natural product."

The value of Petiot's method to the winc producer, especially in unfavorable seasons, cannot be over estimated, since the wine made after this method is ready for bottling in four months, instead of three to five years, as with the natural wines." They are not subject to discase like the natural wine, and possess a most remarkable stability, hence require little or uo care and almost no fining. These artificial wines ere aromatic, retaining the perfect bouquet of the natural ones. In case the grapes contain an insufficient amount of acid for the several infusions, tartaric acid or cream of tartar is added, and tannin for red wines; also mallow flowers or whortleberries to the pulp before fermentation, and alam to the wine to heighten the color.

These infusion wines are produced in large quantities in all countries where the law does not prohibit their production,

Schule's method, introduced in 1865, and said to be practiced especially by wine dealers in England, Germany and Anstria, consists in the addition of from I to 3 per cent. of glycerine to the wine, whereby the wine, if young, appears older and has more body and stability.

To what extent these various ac-called wine improving methods just enumerated are practiced to-day on European wines designed for exportation to this country I am not prepared to state.

Very heavy fines, together with confiscation of the goods and imprisonment, for wine adulteration, have been imposed on the offenders for the last few years in Germany and France.

#### THE WINE MERCHANT'S ARGUMENT.

The News Letter viewing the controversy of prices from the wine merchants' standpoint says:

Viticulture in California, like every other new industry, has had its ups and downs. but its prosperity seems now to be more generally assured than at any previous time. The growing of table grapes and the making of raisina have progressed quietly and successfully, the producers working in harmony with the commission merchanta and all making money. But little is heard of them except when the crops are being prepared for market and are being shipped East where they are readily absorbed. The growers attend to their business in the country, while the merchants look after the interests of the growers in the cities. it is not so with the wine makers and the wine merchants. All the year round, and especially after vintage, the usual complaints are made that the merchants are attempting to depress the market, that the makers cannot obtain living figures, that the crop is short, that the demand is increasing, that the merchants' cellars will soon be empty, that it is not fair that one maker should be paid a higher figure than another, and so on. These regular complaints might be kept stereotyped and dumped into the papers at the regular growling season, whether it be about crops, shortage or supplies, vintage or vinegar. banking or bursting, and the rest of them. Now with this constant and renewed grumbling on the part of the wine makers,

should begin to kick. It has been rubbed into them long enough in all consience.

The wine merchant is by far the best judge of the condition of the market. He knows the demand, what stocks are in the cellars of the trade, and what will be needed for another year. Every maker thinks that his wine is the best in the State, whereas it is only fit for the vinegar tub, and much good would ba done the industry as a whole if it were dumped there. Each maker expects to obtain the highest price for his wine, and because the merchant, knowing what the market demands, refuses to accede to the terms of the maker, then he is a Jew, has joined a combination, the ring wanta to ruin the producer, and all that sort of rot. The merchant will have no trade without the producer, and he knows it. He has his name to maintain before the public for the bulk of the wine is placed on the market, with the maker's label, and not the grower's. His reputation is at slake, and he therefore wants good wine, but he will not pay a fancy price for an inferior wine. The sale of 50,000 gallons at 35 cents shows what will be given for a first-class article. It is absurd to say that the business does not pay. The fault is chiefly with the maker himself. There is not one man in five hundred among our wine makers who can make wine that is good enough to command thirty-five cents per gallon when it is only a few months old. The makers forget that their wine has to be kept for years by the merchants before it is in a fit condition to sell. The public won't be poisoned. The wine besides being aged, which alone represents considerable loss of interest on a large expenditure, has to be carefully watched and handled which is another item of expense. Then there is the repacking or bottling for export or for market, the cost of corks, labels, bottles and many other incidental items, all of which fall upon the merchant and not upon the maker. These expenditures form a very considerable sum in a large cellar, but they are lost sight of entirely by the maker when he wants to acll. The average value of wine exported from San Francisco is forty cents per gallon, and the price now paid for ordinary new wine is from twenty to twenty-five cents. When the aforementioned expenses are added so the original cost, and it is considered that the merchant has to keep the wine on hand for two or three years, it will be seen that the margin of profit is not so enormous as the makers would have us believe. The first-class wine makers in the State can be pretty well counted upon the fingers of both hands, What we advise the remainder to do is to growl less and to devote their time to studying how to make better wine. Then they will receive higher prices and cease to complain at those who are anxions to work in harmony with them and in the interests of the industry-the wine merchants.

Business in Cette has been very dull, and wines have been sold for a great deal less than experts have valued them. It is feared that business will remain very bad until the fear of a war is set at rest.

### Country Board Wanted.

A family in the city desiring to spend a few weeks in the country wish to find banking or bursting, and the rest of them. Now with this constant and renewed grumbling on the part of the wine makers, it is not surprising that the wine merchants

The following is in continuation of the translation made by Mr. L. D. Combe for the Santa Clara Valley, from the Giomalic Vinicale Italiano.

From the preceding facts, we are already able to formulate the following rules upon the results of those hybridizations: The crosses of European vines with Riparia or Rupestris produce in 96 to 98 per cent, of cases, hybrids with fruits and clusters too small, and whose resistance to phylloxera is insufficient (while the reverse in the case for resistance to peronospora). However two or three per cent. of those hybrids, approach in greater measure one of the parents by one organ and the other by another organ, so that it may be hoped, by such manner t at a plant may be obtained, of direct production, gifted at the same time with the faculty of resisting phylloxers and mildew, and of producing fruit in amptable quantity and quality.

Thus in brief, is summed up the result that may be expected from crosses of European vines with Riparia and Rupestris in their first generation. We must not forget that 50 per cent, at lesst of hybrids obtained are males and consequently sterile, besides 25 per cent, are generally of insufficient minate, nor do all the fecundations succeed, it will be seen that the creation of a hybrid vegetation, and as the seeds do not all germinate, nor do all the fecinations succeed, of some value, in the first generation is undoubtedly a difficult and somewhat uncertain undertaking.

Fortunately, nature's resources are infinite, and among the surprising properties of organized beings and undonbtedly the most prolific in results of all kinds, is aexual reproduction.

We said that 96 or 98 per cent. of hybrids produced in the first generation such small bunches and small fruit as to be unfit for direct reproduction. Shall we therefore deatroy them? Can we not do something with them? Certainly ,and an excellent use may be made of them as I will presently demonstrate.

Another physiological law, as solidly established as the one just discussed, teaches us that in the immense generality of cases, often 99 out of 100, when we sow the fecundated seeds of hybrids of the first or second generation, the product of such seeds will retrograde more or less completely towards the paternal or maternal type. Consequently, if for instance we sow the seeds of the hybrid Chasselas-Rupestris, we shall have plants very notably different from the primitive hybrid, whence the seeds were obtained, some of which will reapproach the Chasselas while others the Rapestris.

Some one will here say, that this is of no interest to them, that inasmuch as the hybrid of several generations has retrograded towards the first parents, the root must have done the same and its resistance to phylloxera be so diminished as to be unexceptable as compared with those of the first generation.

This objection, though apparently of a serious nature, is absolutely without any foundation.

All the botanic naturalists, who for the last century go on repeatedly with their thousands of experiments in hybridization, nnaminously recognize that the retrogradation of hybrids to the types of their respective progenitors (atavison) is not verified for the schole or the totality of the hybrid, as sent for to attend a case of obstinate noso- vinous tlayor, and slightly musky. Vine, a

HYBRIDIZATION OF AMERICAN | might be supposed by the objection, but for separate organs or fragments of the individnal hybrids, instly said Naudin a master of to the forehead and two fingers upon the the science, are Mosaics alongside an organ decidedly of paternal type is presented nostrils and pressing the lip firmly against another as markedly of the maternal. Therefore, when these hybrids are reproduced by seed, they vary, it is true, but still do not cease to preserve during a more or less protracted series of generations, their Mosaic constitution, hence those influite variations, approximations, contrasts so varied and so surprising. Thus, owing to the variability of the hybrids by fragments, and the principle thus involved, the object I had in view for the last seven years, may be observed to have become accessible. Little do we care if the hybrids of the first generation seem to bave lost the virtue of their parents; we are sure to see them reappear in the second or third generation. Thus, instead of discarding them as useless, we shall carefully cultivate them and obtain their seeds, because we have every reason to hope that their progeny will become their superior in divers aspects. In the last Congress of Bordeaux in 1887, I asked for mue years to solve the great problem before us, I hope now that there will be no need of putting off very far the result. The first generation is made and is bearing fruit now. With Mr. de Grasset we will sow this year 10,000 seeds and next year 50,000.

From such numbers of plants of the second generation will be so numerous in two or three years, that I feel assured, little difficulty will be encountered in discovering the long sought for White Dove, a vine with American roots and leaves, thus proof against phylloxera and mildew, and Enropean fruit source of new prosperity.

But were it necessary to wait until the third generation, some three or four years, so slow for us, do not count but as moments in the chronology of species and hybrids we shall have to be satisfied. Let the viticulturists have as much patience as we had, and propose to have, as we are resolved, if we find a new vine to viticulture not to publish the fact until after sufficient varied and lengthy experiments, in order that we may not have the blame of giving occasion to new illusions.

#### SOME DON'TS.

Don't inier because a certain remedy cured a case similar to yours, that it will positively cure you.

Don't use alleged "disinfectants" that simply smell stronger that the odors you desire to abate.

Don't drink whiskey in cold weather: alcohol lowers the body temperature.

Don't purchase vegetables or fruit even ever so alightly "specked." The removal of the spoiled parts does not remedy the decomposition that has begun in the entire fruit or vegetable.

Don't neglect to have your deutist examine your teeth at least once every three months.

Don't continue at your business or work when your appetite fails, when your temper grows peevish or irtitable, when your sleep is disturbed, when your heart palpitates strongly and your pulse grows intermittent. Under these circumstances, consult your physician, and if he gives you drugs and allows you to continue your work, throw him to the dogs with his physic.

Don't employ any other means than the following, while awaiting your physician,

head, cloths wrung ont of ice-water applied lips; the tips of the fingers pointing to the the bone beneath it. If the flow of blood is severe, ice-water may be frequently injected into the nostrils.

Don't neglect a "common cold;" it may lead to even fatal pneumonia. At bedtime take a hot-mustard foot-bath, followed by a hot lemonade, six grains of quining or ten grains of Dover's powder, and cover yourself thoroughly. If you are not per feetly well in the morning, remain abed and send for your physician. If not within reach of a physician take epsom or rochelte salts, or citrate of magnesia, until free effect is produced. Drink copionsly of flax-seed or slippery elm tea, and take a quarter of a half teaspoouful of syrup of ipecac every two or three hours, with a grain or two of quinine, paint the upper part of the chest with strong tincture of iodine, or rub it thoroughly with oil of tur-

Don't think that any prowess is manifested or benefit derived from the use of electrical batteries in the manner you are invited to, at public fairs and pleasure resorts.

#### GRAPES

#### Origin of Popular Varieties

The Vineyardist is now giving the origin and a brief description of all the leading varieties of grapes that are principally cultivated in the Eastern States. will be noticed in alphabetical order;

Agouam (Rogers Hybrid No. 15) origiuated by E. S. Rogers, of Salem, Mass., and by him regarded as his best grape, until the introduction of the "Salem." Brownish red or maroon color, of the Hamburg cross: bunch s, medium to large, compact, and often shouldered; sweet sprightly and aromatic; productive and vigorons; succeeds best with long pruning.

Brighton-Raised by Jacob Moore, of Brighton, N. Y. A cross of the Concord and Diana-Hamburg. A fine and handsome grape; very hardy; a rapid and vigorous grower, and ripens early; a coppery amber in color; bunch, medium to large, herries the same: sweet, juicy, and slightly aromatic; best flavor when first ripe; as early as the Hartford Prolife, and before the Deleware. It is a popular table grape in the Eastern States, where it is largely produced. In severe winters, however, it requires protection.

Catawba-This old and well-known variety is a native of North Carolina, and takes its name from the Catawba River. It was transplanted from its wild locality to a garden at Clarksburg, Md., and introduced to the public over sixty years ago, by Maj. John Adlum, of Georgetown, D. C., and has for many years been the standard wine grape of the country; but has had to be abandoned in some sections (as in Ohio), on account of blight and mildew. In localities where it will fully mature, and is not subject to those diseases, there are few, if any, better or more desirable varieties. It dourishes remarkably well in favorable positions on the shores of Lakes Keuka, Seneca and Canandaign; and if not picked nutil fully ripe, is a great favorite as a table grape, in the city markets. Bunches, large, moderately compact, and shouldered; berries, above medium size, round deep red. with lilac colored bloom; flesh, rich, jnicy, aweet when really ripe, with a sprightly

bleed: Sit erect, fingers locked over the vigorous grower, and in favorable situations, and good seasons, very fruitful. Clay above shale, or gravelly and semi-sandy soils, seem best adapted to its auccessful culture on sunny slopes, in the near proximity of the lake shores, below the late spring and early autumn frost lines. Of late years, because of its particularity of soils and lobation, the Catawba has, in the estimation of some growers, been partially snpplanted by the Concord and some other varieties.

> Clinton-(Synonymous with Worthington.) In the year 1821, Hon. Hugh White, then in Hamilton College, N. Y., planted a seedling vine in the grounds of Prof. Noyes, on College Hill, which is still there and is the original of the Clinton grape Color, black; bunches, medium or small, compact and shouldered; berries, round, below medium size; skin thin and tough; flesh juicy, brisk and vinous in taste and somewhat acid, sweeter when grown further south: colors early, but should hang late in order to become entirely ripe; vigorons, hardy and productive; makes a fair dark-red wine, that improves with age; not a table grape.

Concord-The most popular American grape, and flourishes over the widest territory of any other variety. It was originated by E. W. Bull, of Concord, Mass., who exhibited it for the first time on the 20th of September, 1853, at the 25th annual exhibition of the Massachusetts Horticultural Society, on Boston Common. Bunch, large, shouldered rather compact; berries, large, round and black; covered with a heavy, rich-blue bloom; skin, thin and easily broken: fiesh, sweet, pnlpy and tender; colors about two weeks before the Batawba, but should not be picked too soon, as only perfect ripeness developea its best qualities. Vines, very atrong; rampant growers; coarse, heavy foliage, darkgreen above, and rusty looking beneath; very hardy, healthy and immensely productive; makes a light-red wine, which can be produced cheaply, and is very palatable and refreshing. This is becoming one of the leading grapes of our own and tho Hudson River region; and of late years sells, as a table grape, nearly as well as well as most of the other standard varieties, but not so high for wine-making purposes.

Delaware-Real origin unknown. was found, many years ago, in the garden of Paul II. Provast Frencthenen, N. J., who had immigrated from Switzerland, and brought with him many varieties of foreign grapes, which he cultivated in his grounds; and this may have been one of the number. It was first brought into notice by Mr. A. Thompson, of Delaware, Ohio, and hence its name. It is considered one of the very best of American grapes, and seems almost exempt from rot and other diseases, except mildew when allowed to over-bear; but it does not succeed over as wide a range of country as the Concord and some later varieties. As more vines can be set to the acre, however, it can be made nearly as large a producer as the average standards. Bunch, small to medium, and compact; berries, below medium, and round; skin, thin, but tenacions; pulp, sweet and tend r; juicy, rich and vinous; color, a light, delicate red or purilish maroon; covered with a thin whitish bloom. It is without barshness or acidity, but sprightly agreeable and aromatic in flavor; ripens early, about eight days after Hartford Prolific, and is of the best quality for table uses and also for



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For particulars address " A. M." this

THE proposal of the British Government to place a tax on bottled wines is looked upon with much dissatisfaction by the French, and M. Faure ex-under Secretary of the State has written to Le Malin protesting against the imposition. The tax, he says, will principally affect France The levying of the tax, Faure claims, will not be justified except under a strained interpretation of the convention of 1882. If the proposal is adopted, reprisals by France will be necessary.

THE erection of a large wine warehouse at St. Helena is now assured. The grape growers will contribute to the project, and a contract with the builders will be entered into at once. This coutract calls for a building with storage capacity of 1,000,000 gallons of wine, to be erected in time for storage of wine crop of '88. This is a movement in right direction and one which should be adopted in other sections of the state. It will benefit the small wine grower, and place him in a more independent position. than that which he holds at present.

In regard to the appointment of Mr. F. Pohndorff, by the United States Government, as a delegate to represent the United States at the International Viticultural, Congrese, to be held in Madrid this year, Bonfort's Circular says: "This is decidedly the best appointment to this very important position that could have been made, and we are happy to cougratulate Mr. Bayard on his good judgment in selecting Mr. Pohndorff." So say we all.

DURING the present planting season the vineyard acreage in Livermore has been increased by 201 acres. Of these Mr. J. P. Smith, of Olivinia, is accredited with an increase of 185 acres, planted out in Monduse, Columbar, Semillon, Burger, and Folle Blanche. This gives him a total area in vines of 620 acres, ranking Olivinia as the largest vineyard, not only in Alameda, but in this section of the State.

THE USUAL bug bear of the season has appeared in the form of the announcement that a boycott will be enforced by the wine men of this city, against the wine grower. The casus belli is said to be in the fact that some of the wine growers have dared to sell and ship on their own account independeut of the middlemen. The proposition is on its face so absurd, that were it not that an attempt has been made to evolve a sensation therefrom, the matter should pass unnoticed.

The fallacy of the statements is selfevident. In the first place there are only the names of three of the wine houses of this city connected with the attempt to lower prices, out of eight or nine of the large firms which virtualy control the western wine trade. There is nothing to show any organized movement on the part of all the dealers to form a trust, and there is none. The parties whom it is claimed are to be hoycotted, are the last in the world who could be injured by such a scheme were it attempted. They have an outlet for their own product, and have as a rule sufficient private capital to move their wine to Africa or elsewhere if they so desire, and it is most unlikely that such a very unnecessary stop would be taken to force the small producer into a corner.

The only trouble arises from the natural desire on the part of the wine seller, to purchase from the wine maker, at as low a price as possible. The market rate at present, it must be admitted, is too low, from 25 to 30 cents per gallon being little enough to pay the country wine grower for his product. The dealer can and does make a large profit at these figures, and on his part the fact should be recognized that by keeping down the producer at retee which will not permit a liberal profit, the condition of the vineyards them selves is joepardized, which must eventually react against the trade.

The wine grower must, however, bear his share of the blame for a condition of affairs, which permits a few wholesale buy era to dictate terms to him. The cry has been for years against the wine men of San Francisco; there has nothing further been doue. No steps have ever been taken to remedy the trouble. It is useless to contend that there is only one market for our winess the world is open for trade and good wine sells everywhere. The sole trouble lies in the lack of unanimity among the wine producers. It is within their power to fix a rate for their wines and maintain it, by storage of the sarplus crop in a regular system of warehouses, erected for that purpose.

In the interests of California, some measures should be adopted to ensure fair dealing on both sides. If our vineyards, and consequently our wines, are to be kept up to the progressive standard, which must be maintained in the markets against foreign competition, it is more than necessary that the returns to the grower should be such as to cover the heavy expense entailed by carrying on his work as it should be done. It is not sufficient to eit down year after year, and hammer away at the wine merchant. He is running his end of the business in his own interest and for all there is in it If any reforms are to be carried out for the protection of the grower, action is required. It was a surprise to many that this question did not arise in some form for discussion at the late convention. It is one of the greatest importance to the future of viticulture in this State, yet every tougue was tied. The laborer is worthy of his hire in every instauce, but in none more so than in the vineyards of California,

uished by the correspondents of Bonfort's Circular is the following: The wines in Burgundy are healthy, which has not been the case with many those of recent years, The summer having been dry, there was less mildew, and consequently less occassion for adopting the usual treatment to check that disease, which, although beneficial to the vines, has unvariably been most injurious to the quality of their produce. To this desirable feature it may be added that the wipes have fine color, good body, fair maturity, and clean bouquet.

As compared with last year the importations of Bordeaux winee show an increase in both bulk and cases. The importations of German wines continue to increase. The receipts for the first two months of this year are larger than they have ever been for the corresponding time. In Italian wines, the figures also show a decided increase over the past two years. It looks as though it will not be very long before these wines occupy the most conspicuous place among the goods dealt on by the trade. The receipts of Champagne, during the month and for the year show a falling off, from the importations of 1887, by over 8000 cases.

An expert on the Cognac district expresses the opinion that the greatest part of the damage, that has been caused by phylloxers in that district, might have been avoided by the proper care of the vines. His theory is that the vineyardists called ou the vines for a larger productions than they were caperable of furnishing without weakening themselves to a great extent as to render them incapable of resisting the insect. If the cuttings had been properly made the vines would have retained sufficient strength to secure their product in spite of the presence of the scourge in the vineyards. His opinion is that if the vines had been given the proper food, and had not been forced to overwork themselves, they would have gone on producing just as they did before 1878. As it is, even in the present state of the vineyards, with proper care it would only take four or five years to put the vines in as good condition as they were prior to the visitation of the pest. This is clearly shown in some of the estates, which are flourishing, while the whole country around is devastated.

THE grape cure, which for years has been looked upon with much favor, in France and Germany, is now beginning to excite much interest in medical circles in the United States. A prominent Eastern wine journal is industriously disseminating infor mating regarding the peculiar merits of the new cure, which, in a recent article, it claims has become an established fact in this country, as well as in Germany, "every day developing new truths" in support of its wonderful efficiency. The eminent Irving C. Ross, M. D. speaking from personal experience, says of it: "Some years ago, on arriving at Cadiz, after a long 70y age and the monotonous diet of a sailing ship, and my system being greatly reduced. I determined to try for a time a diet consisting almost exclusively of grapes. The result was rapid re-establishment of all the hodily functions, and a feeling of more than ordinary strength and agility. I was prompted while in San Francisco, Cal. to resort to the grape cure for the second time, the result being satisfactory. I recommend the cure to several persons who were much run down from over-work and had diet, and I had the satisfatcion to see of the State Viticultural Commission.

Amono the latest continental news fur- a rapid gain both in their weight and appetite.

> The methodical and rational use of the grape juice it has been demonstrated reconstructs the blood, and builds up the nervons system. It is further recommended for liver and intestinal troubles.

> Au enterprising firm in New York city, has built up quite a trade during the past year in supplying pure juice to invalids. When fresh grapes were available the juice was expressed at the counter, and sold at the rate of five cents per glass, or twentyfive cents a bottle. At the close of the seasou large quantities of the juice were stored away in a temperature low enough to prevent fermentation.

> To this end the process recently patented in Califoroia of condensing grape juice by "Evaporation" can be readily adopted. By this process the article is said to keep for an indefinite length of time, can be shipped in kegs or barrels, and when properly di-Inted with water, will be transferred into a wholesome heverage at once. It can on the other hand he fermented and made into wine exactly like freshly expressed grape

> Such a pleasant remedy for the distressing ills of the body, will grow in popularity, with the thorough establishment of its efficacy. It will offer a new and profitable outlet for the surplus product of the Westera grape grower.

> THE TERMS of several members of the Viticultural Commission having expired, Governor Waterman in revising the list has made some changes. The new board will new consist of: State at Large, M. M. Estee; Sau Josquin District. George West; Sonoma, I. de Turk; Los Augeles, L. J. Rose; El Dorado, G. S. Blauchard. By the appointment of Mr. Estee, Mr. Harsezthy, who has been President of the Commission since it was created, was superseded. The reason for this action upon the part of Governor Watermau, is not exactly clear as yet, to those most intimately connected with the wine business, who recoguize the capability of the man, and the untiring energy which he has at all times displayed in the discharge of official duties, which carry with them uo renumeration, not even travelling expenses being allowed.

THE funeral of M. Theophile Roederer, whose death was reported in our last number, took place in Reims on Tuesday, the 6th inst. The remains were followed to their last resting place in the Protestant cemetry of Reims by a numerous cortege of friends. M. Heuri Henrot, the Mayor of Reims, acted as chief monruer, and the funeral discourse at the cemetry was prononuced by M. G. Bazin, a friend of the deceased. M. Roederer died of an affection of the lungs which developed itself hefore the war, notwithstanding which he served with honor, and suffered the privatious ot a prisoner of war, in spite of the malady that eventually carried him to the grave. He was distinguished for his benevolence, and his memory will be cherished by a large circle of friends. He was fortysix years old at the time of his death.

THE paper entitled "So-called Sherry Flavors in Wines," should have been accredited last week to Mr. E. H. Rixford tha Secretaryof the Vinegrowers and Wins makers Association of California. It was read by him before the late Convention of Viticalturists, held in the city under the auspices

#### KOHLER AND PROHLING,

Of this well-known firm the News Letter asya: On the twentieth of this month a co partnership was formed, consisting of Elise Kohler, widow of Charles Kohler, Hermann Bobrmann, of New York, Mrs. Kohler's son-in-law, Hans H. Kohler and Charles Kohler, of this city. Mr. Bohmann will attend to the interests of the firm in New York, where the demand for wines of this house is increasing to an extent that requires the most energetic management on this side to supply them. Over 500,000 gallons of assorted wines and 30,000 gallons of brandy has been shipp d during the past year to the New York house. This immense demand necessitated the moving of the firm's headquarters in New York on Barclay street, which admitted of a storage of about 150,000 gallons, to larger cellars, 4145 Broadway, whose capacity is over 300,000 gallons. In the latter cellar are the latest improvements, consisting of steam heaters, electric lights and pumps, and moving large packages by the same agent. It is not an exaggeration to state that this Broadway wine cellar is the most perfect in the East, and has been announced by all who have seen it a model cellar The business in San Francisco is conducted by Messrs. Hans and Charles Kohler. whose principal vineyard is in Sonoma county, near Glen Ellen. These gentlemen have had a thorough education in the wine business from the lowest round in the ladder to cellar-master, and in the vineyard, from ordinary labor to the actual manufacturing of the wines. Their knowledge, therefore, of wines and wine making is not only a theoretical, but an eminently practical one. And in their absence their interests are in the hands of Mr. H. C. Jordan, who has been in the firm's employ for a number of years, and who has a thorough and efficient knowledge of this important industry. The aim of the present firm in future, as in the past, shall be that of their father's, namely, the making of pure wines and the advancement of California's reputation in this regard. This will be the noblest mounment that can be erected to the memory of the pioneer in California wine manufacture, Charles Kohler, and the realization of his carnest and enthusiastic

Tue cost of drilling a gas well is usually from \$3,500 to \$6,000. The method pursued is the same as of an oil well. The weight of the drills, with the attached jars. is about 3,000 to 4,000 pounds. These rise and fall about four or five feet, and are constantly rotated, so as to bring the bit into contact with circumference of the drilling. For a depth of 500 feet, the hole is bored 8 inches in diameter and is cased with 53, piping. Beyond this depth the hola is continued with a diameter of six inches, until gas is reached or the well abandoned. A casting of 1-inch piping is used for this lower portion. Under ordinary circumstances, about fifty days ore required for the drilling.

An automatic chess recorder has been produced by Dr. Wurstemberger, of Zurich. An ingenous electrical arrangement prints on a strip of paper the index number and letter of the square from and to which the piece is moved, and moves of the black pieces have a different place on the tape from those of the white.

Subscribe for the MESCHANT.

#### A NEW GRAPE.

Messrs, Elwanger and Barry, of Rochester, N. V., announce a new and valuable grape, to be known as "The Mills Grape," for which novel and distinct characteristics are claimed, namely, that it possesses the high qualities of a foreign grape, in addition to, or in combination with, the vigor and productiveness of the best native varicties.

While the propagators of this new candidate for grape growing favor do not presume to say that it will succeed in all soils, situations and elimates, they do believe that in a climate similar to ours, and with a reasonable good soil, situation and treatment, such as every grape should have, it enunut fail to give satisfaction. It is especially recommended to those who desire a grape of high quality and are willing to bestow upon it the care it deserves.

This new grape, which is offered this year for the first time, was originated by Mr. William H. Mills, of Hamilton, Ont., by crossing Muscat-Hamburgh with Creveling. Bunch, very large, compact, shouldered, some clusters weighing over twelve ounces. Berry, large, round, jet black, covered with a thick bloom; flesh, firm, menty, juicy, breaking with a rich, sprightly flavor. Skin, thick; berries adhere firmly to the stem. Vine, vigorous and productive; foliage large and healthy. Ripens about with the Concord, or a little later, and is a long keeper.

#### TESTS FOR VITALITY OF SEEDS

A bull-tip of the Ontario Agricultural College contains among other valuable matter, the following, to test the vitality of

1. Place one hundred seeds between sheets of blotting paper laid on sand, and keep the paper damp in a place where the temperature is about 76 to 85 degrees Fahrenheit. The number of seeds germinating will indicate the percentage good.

2. Place the seeds on a piece of flaunch in a saucer, with sufficient water to moisten it thoroughly. After scattering the seeds (one hundred) on the flannel, put a piece of damp blotting-paper over the whole and place in a warm room. Keep it continually damp, and in a short time the seeds will germinate; the number sprouting will be the percentage of good seed.

For examining seeds as to purity, scatter them on a piece of black card board, and the foreign grains are readily observed. If a good collection of seeds true to their kind, is kept for comparison, the impurities can be easily identified.

The results of various tests in the germinator are given. The following inferences will practically cover the whole ground.

Age has a marked effect on the vitality of certain seeds.

Many seeds have lost much of their vitality from improper curing or other causes.

Frozen wheat is not reliable for seed, for even though germinating a fair per cent. ot growth in the field is of a more or less weakly nature. All seeds should be tested for vitality and purity.

A small percentage of impure seeds means very many in a bushel.

Australia has some giant caterpillara. Mr. A. S. Olliff, of Sidney, mentions one moth larva, abundant during the past season, as being seven inches long, and speciments of larva; of two other species measure eight inches in length.

#### HONORABLE JOURNALISM

The Editorial Room should not be controlled by the Business Department.

The Marysville Appeal in discussing the subject says:

Some very nice men hav very narrow ideas. In every town there are small souls who think their advertising "patronage" should gov on the course of the local newspoper in the publication of news. Of all forms of mental meanness, this idea is about the most paltry and cuntemptible. A newspaper should publish news without thought of eatering to the mere opinions of anybody. The chief test of the relative value of any piece of news is its int r st and importance to the mass of a paper's readers. It is a poor editor who publishes nothing but what suits his individual views or tastes, and a weak one who permits an advertiser to dictate to him the class of news which shall or shall not be published. A paper can better afford to stand the boycotting of any advertisor than to impair the value of its news department or editorial columns in timid defference to their prejudices or their preferences. \*

Several years ago, in the course of conversation, a venerable and successful newspaper proprietor, of San Francisco, asked how the young McClatchya were getting along in the management of the Bee. Ilwas told that they were "ent rprising but indiscreet," "Well," remarked the vet eran, "indiscretion often pays in the u wspaper business." And he is noted for his eaution.

The Bee is a case in point. It is bumbling and bumptious, and oft a hozzeabout in a very unpleasant way, stinging or making people afraid that it is going to sting. It has a host of enemies, and is making more all the time. But from a business point of view the Bea is a success, and its circulation is remarkably large for an evening paper published in a city of Sacramento's size. People like its independence, boldness and enterprise, and quarter with assets \$780,539 and liabilities many who find fault with it still constantly read it. If less bumptious, the Ber would probably pay still better and be more influential, but should it become timid and truckling, and allow itself to be edited by its advisers, it would certainly lose ground.

#### NEW RESISTANT VINES.

The San Francisco Post says some vine euttings have been received from Texas by the Viticultural Commissioners, and if the reports of the merits of the varieties have not been exaggerated, California vin yardists will not be slow in importing large quantities of the Texas article. The cottings are known as the Novo M xicana and the Berlandieri. The stocks are absolutely phylloxera-resistant, and possess other advantages which will recommend them. The Novo grows on the Pan Handle of Texas, and it thrives there, although rain has not fallen in some sections of that country for two years. The cuttings root easily, graft well without sucking, are strong and form large stocks. The roots strike deep, and Of these, two-the great auk and the Labrathe ability of the variety to draw meisture from deep in the earth recommends the atock to Californians. The Berlandieri is best suited for chalky or marly soils. experts these stocks are pronounced better being eagerly sought: The carbonated warthan the Californica and Arizonica.

THE MEACHANT has an extensive circulation in the Eastern States, and Europe.

#### HOW PERROLETM WAS FORMED

The theory is held by Prof. Mendeleef, of Russia, that petroleum is produced by water which penetrates the earth's crust and comes in contact with the glowing carbides of metals, especially of iron. The water is decomposed into its constituent gases, the oxygen uniting with the iron, while the hydrogen takes up the earbon and ascends to a higher region, where part of it is condensed into mineral oil, and part remains as natural gas, to escape wherever and wh never it em find on outlet. If this as umption is correct, and a sufficient store of metal ic carbides is contained in the earth's interior, petroleum may continue to be formed almost indefinitely and continue to yield a supply of fuel long after the supply of coal has become exhausted. Prof. Meudeleef supports his views by producing artificial patroleum in a manner similar to that by which he belives the natural proaluct is made.

#### A NEW MILITARY RATION

All the garrisons within the limit of the S venth German Army Corps have now been provided with larger samples of the new article of food which is in future to form the so-called "iron ration" of the men in the field. It is a peculiar kind of bread, io the shape of small cubes the size of a chocolate drop, made of fine wheat bread. strongly spiced, and calculated to keep for a lung time. When taken into the mouth it quickly softens, and is both palatable and nutritions. It is chiefly intended for forced marches, when there is no time for comping and cooking.

SAN FRANCISCO, April 2, 1588.

The Brad street merchantile agency reports 170 failures no Pacific Coast States and Territories for the first quarter of 1888 with assets \$510,711 and liabilities \$12,346, 701 as compared with 153 for the previous \$1,366,133 and 210 for the corresponding quarter of 1887 with assets \$510,922 and liabilities \$1.047,156,

The failures for the past quarter are divided among the States and Territories as follows:

Assets, Liabilities, \$394,261,00 11,066,869,00 175,742,00 0,000,068 96,150,00 4,950,00 State. No. California. 120 Oregon. 10 Washington 15 Nevada 3 179 \$510, 11 (8) \$1,346,701,00

A WEITER IN Bouforts Circlar says it is enough to "make the angels weep" to see water, extract of raisins and "unfermented wine" used in the administration of the Sacrament, as is being done in thousands of churches to-day, as a substitute for pure wine such as the Saviour adopted to commemorate His death. Surely the world has grown wise when the followers of Christ take exception to His teachings, and cond ma the example lie set to man.

TEN spictes of North American birds are named by Mr. E. M. Hasbrouck as missing. dor duck-are believed to have become extinct, while the following eight, through se treity or diminutiveness, were lost with By the taking of the first specimens, and are bler, blue mountain warbler, small heated warbler, Cuvier's kinglet, Townsend's bunting, Brewrt r's linnet, Bachman's warbler, and the Cincinnatti warbler.

#### FREEDOM OF VINEYARDS

Grapes are not more plentiful or common in this country than in many places in Europe, yet there is a freedom exercised with them here, that would in most auy other country, amount to absolute larceny. Here, men, women and children make free nse of them whenever they are in reach, and think it perfectly right. If they are permitted to enter a vineyard, they pick and eat from the best clusters of choicest varieties, that makes the grower sorry that he went to so much expense and trouble in growing them. Again, those who work iu picking grapes-usually boys-these who engage in carrying them to the fruit houses. and then the girls who trim and pack them for market, seem to vie with other in esting the largest quantity, and in the case of the boys they oftentimes acatter them on the ground or throw them at each other in play, never caring a moment for the severe loss to the grower. In this way many tons of the choicest fruit are aunually consumed and destroyed, which materially reduces the net profits of the viueyarda, leaving only a scauty compensation for his season's industry and economy.

But this practice and indolgence is very different in other countries where more strict rules of right and justice are observed and enforced. W.D. Howels, in a very interesting and instructive letter, describing some festures of grape growing in Switzerland. published in Harper's Magazine for February savs:

A frieud in London had congratulated us upon going to the Vaud, in the grape season 'For three peuce' he said, " they will let you go into the vineyards and get all tho grapes you can hold." Arriving upon the grounds, we learned it was six francs fine to touch a grape in the vinevards; that very field had a watch set in it, who popd up between the vines from time to time, and interrogated the vicinity with an eye of sleepless vigilance; and the small boys of suspicious character, whose pleasure or business took them through a vineyard, were obliged to hold up their hands as they passed like the victims of a far-west road agency. As the laws and usages governing the grape culture run back to the time of the Romans, who brought the vine into the Vaud. Iwas obliged to refer my friend's legend of chespness and freedom to an earlier period, whose custom we could not profit by. In point of fact, I could buy more grapes for threepence in London thau in the Vaud,"

Of course we could not approve any such degree of strictness here in this laud of plenty, but a little more observance of and respect for the property rights of grape growers in the valuable product of their labors, would most certainly ensure more satisfactory and profitable results."

For a cough, boil one ounce of flaxseed in a pint of water, strain and add a little honey, one ounce of rock candy, and the jmice of 3 lemons; mix and boil well. Drink as hot as possible.

#### POWER OF MONOPOLY.

When capitalists, remarks the N. Y. Herald combine to control the market, they crowd scores of little fellows to the wall in order to make their control more complete and kill the spirit of competition. The small dealer is doomed, and we are govern ed by a syndicate that squeezes tens of millions out of our necessities. If we want sugar, envelopes, milk, fin, lead, copper, or what not, we must doff our hats to these imperialists and beg them to serve us at their own price. Look at it how you will, trusts mean war against the best interests of the community. If we don't abolish them they will abolish us. It may be a long fight and a hard fight, but it is a fight worth fighting. A monopolist is just as much an enemy to orderly society, as an anarchist. The latter blows us to smitherreens by a single explosion, the former lays ns under tribute and compels every man, woman and child to add to his bank ac-

D. B. Wier, an excellent grape growing sothority, says: "As a rule, soils have enough lime for the grape. Where there is plenty already it would do no good, and no harm, unless applied in great excess. Where lime is wanting, or the land has a tendency to sourness or muckiness, it would be of benefit. One peculiar value of applications of lime where the sesson is short, is that it induces early and sound ripening of woody growth.

#### TEMPERANCE VS. FANATICISM.

Rev. B. W. R. Taylor, of Riverside, is the target of some round and even savage criticism these days, says the Sacramento Bee, because he ventured to intimate that probibition is considerable of a farce, and that it is incompetent to effect the object of its advacates. It is not surprising to find a man so fearless as to tell his teototal congregation so wholesome and palpable a truth denounced and distribed as if he had committed high tresson in time of war. That is, unfortunately for genuine temperance reform, the usual style of the prohibitionists. They gain a step in the way of reform and theu tose two by their brutal intolerance and ill-advised hothendedness. There can be no doubt among thinking people that the consumption of wines as a means of supplanting the etronger liquors is a practical, sensible proposition and the best kind of an aid to orthodox temperance. But the particular lauguage that worried the ill-tempered zeslots was this:

I do believe that God gave us the fruit of the vine for other naes besides eating them as grapes and making raisins. 'The "wine that maketh glad the heart of man" is spoken of in the same passage of scrip-ture as corn and oil, and referred to as gifts of God.

Aside from the rather clumsy effort to fix upon the Almight a responsibility that is more likely to be purely human, Dr. Taylor is undoubtedly on the right road. He advises those who believes in legislation as a safeguard against drunkeness, that the best way to do would be to legislate against whiskey, rum, brandy, and gin, while at the same time, encouraging the general use of wines. If temperance is ever to be the ideal condition of life it will never be through the savage denunciation and mad intolerance of those who assume to lead crusade against alcoholic intoxication. As Dr. Taylor well says: "There is a great deal more in the ressuring of those who advocate the general use of light wines thau might appear at first thought." Stripped of fanaticism, temperance might then become a national practice under the sway of which inebriety would lose the terrors it now includes. The saloon would soon cease to be the abiding place of the besotted who neglect those dependent upon tuem and in their degredation ignore every other duty and responsibility of life. It will never be in California that popular sentiment will uphold the rapid demands of the prohibitionists. Dr. Saylor will find more followers than the men who now revile him.

### EAST BOUND THROUGH FREIGHT. Forwarded by the Southern Pacific Co., Mar. 1888.

Barley.	FORWARDED FROM	uea by				· · · · · · · · · · · · · · · · · · ·	TATCOL:	In Pe	UNDS.
Beaks and Stationery	ARTICLES.	SAN FRANCISCO	OARLAND.	Los Anostes.	Colton.	SAGRAMENTO.	SAN JOSE.	STOCKTON.	MARYSVILLE.
Beans   459,510   1,230   1,230   1,050   510	Rapley	4,772,620	1,485,650			1,698,46u	3,715,736		379,150
Books and Stationery		489,510		143,820		66,020	********		
Eorax		10,980	1,230	1,050		510			
Brandy	Borax				*******				
China Merchandise   93,756   23,630   23,630   24,620   24,620   24,620   24,620   24,620   22,600   22,600   22,600   22,600   22,600   22,600   22,600   22,600   22,600   22,600   22,600   22,600   22,600   23,760   24,620   24,620   24,620   22,600	Brandy			134,190	100,000		8,110		100.000
Chocolate   23,030   22,500   25,910	Canned Goods		233,670						
Cigars   12 030   25 910   2									
Clothing California Manufactured   25,910   Coffee, Green   501,450   Coffee, Green   501,450   Copper, Cement   21,300   930   Copper, Cement   21,300   Copper, Cement   21,300   Copper, Cement   21,300   Copper, Cement   Co	Chocolate								
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Copper, Cement.	Clothing, California Manufactured								******
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Dry Goods		*********							*******
Empty Packages				930					
Fish Pickled 100.550									*******
Frait, Dried									*******
Citrus	Fish Pickled								*******
Fuse.         2,420           Gibe.         33,760         6,130           Hair.         163,760         64,140           Hair.         163,640         163,640           Honey.         163,640         163,640           Horses.         20,000         2,490         6,660           Leather.         162,260         77,010         2,490         6,660           " Scrap         22,600         77,010         Machinery         3,560         Malt.           Machinery.         21,570         3,560         Malt.         317,630         Malt.         3,560         Malt.         Malt.         31,630         Malt.         1220,560         Miscellaneous.         201,230         9,570         98,210         21,920         45,930         17,560         6,020         4.3           Mohair         21,40         1,220         9,600         1,220         9,600         9,600         Nats         6,1150         0         1,220         9,600         1,220         9,600         1,220         9,600         1,220         9,600         1,220         9,600         1,220         9,600         1,220         9,600         1,220         9,600         1,220         9,600         1,220<	Fruit, Dried								********
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Shingles.	Shiogles	500 100					*** ****	********	

#### Recapitulation.

395.830

1,161,720 50,400

5,555,890

San Francisco. Oakland. 26,392,060 1,806,290

Sugar...
Tea...
Vegetables...
Whalebone,

Totals.

Los Angeles. 5,555,890

26,840

1,920,120

5,276,130 176,290 52,340 146,540

26,392,060

3,161,756

3,360

1.806.290

4,096,950

77,560

. . . . . . . .

2,020,680

Marysville. 550,040

233,390 14,700

4.096,950

750

20,000

766,460

69,670

2,450

3.161.750

Coltop. 43,661.220 2,020,680

. . . . . . . .

3,690

77.560

3.900

550.640

### Newspapers in 1888.

From the edition of Geo. P. Rowell & Co's "American Newspaper Directory," published April 2d. (its twentieth year), it appears that the Newspapers and Periodicals of all kinds issued in the United States and Canada, now number 16,310, showing a gain of 890 during the 12 months and of 7,136 in 10 years.

The publishers of the Directory assert that the impression that when the proprietor of a newspaper undertakes to state what has been his exact circulation, he does not generally tell the truth is an erroneous one, and they conspicuouly offer a reward of \$100 for every instauce in their book for this year, where it can he shown that the detailed report received from a publisher was untrue.

THE PHYLLOXERA has been discovered in a number of new places in Huugary.

# WM. T. COLEMAN & CO.

# SHIPPING AND COMMISSION MERCHANTS.

SAN FRANCISCO OFFICE:

NEW YORK OFFICE:

MARKET AND MAIN STREETS.

NO. 71 HUDSON STREET.

---AGENCIES AT---

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CHICAGO, ILL. ASTORIA, OR. LOS ANGELES, CAL. LIVERPOOL.
NO. 4 BISHOPSCATE STREET, Within E. C., LONDON.

Sole and Exclusive Agents for following Brands of Salmon:

# COLUMBIA RIVER.

Booth & Co, Black Diamond, Coleman Flag, McGowan Bros' "Trap" Brand, Fisherman's Pkg Co, Aberdeen Pkg Co, White Star Pkg Co, Jas. Williams & Co. Thistle Pkg Co, Columbia Canning Co, McGowan & Sons' "Keystone" brand. Seaside Pkg Co, J. W. Hume "Autograph" brand.

OUTSIDE RIVERS.

WACHUSETTS PKG CO,
"SILVERSIDE" BRAND,
BATH CANNINC CO,
CARDINER PKG CO,
HERA PKG CO,

"TOMAHAWK" BRAND, SUNNYSIDE PKG CO. FRASER RIVER.

BRITISH AMERICAN PACKING CO.,
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COMPANY

SKEENA RIVER.
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SACRAMENTO RIVER.
COURTLAND PACKING CO., JONES & ANDERSON.

We also offer For Sale of Other Columbia, Sacramento and Fraser River Salmon:

Ceo. W. Hume's "Flag" brand, Hapgood & Co., I X L, Pillar Rock Pkg Co., Ceo. T. Meyers, Ocean Canning Co. Badolett & Co., (Flats), Washington Pkg Co's "Favorite"
Brand,
'Epicure" brand,
Pacific Union Pkg Co.,
Cutting Pkg Co's "Cocktail" (Flats),
A. Lusk & Co's pack,
"Mermaid" brand,

Scandinavian Pkg Co.; West Coast Pkg Co., Warren & Co., "Carquinez" brand; Point Adams, Wadham's Fraser River.

# ALASKA FISH.

Karluk Pkg Co., "Challenge" brand, Arctic Pkg Co., Arctic Pkg Co's "King" Salmon.

We also have the "O & O" brand, an outside river fish, and many other brands, that can be had on application.

# WE ARE SOLE AGENTS FOR THE CELEBRATED

Golden Gate Packing Co, "Black Diamond" brand of fruits,
Barbour & McMurtry's fruits in glass, Coleman's "Flag"
brand of fruit, San Lorenzo Pkg Co, Riverside Fruit Co,
Colton Cannery, J. Lusk Canning Co, San Mateo Pkg Co,
Sierra Madre Packing Co, Santa Clara Packing Co

Our lines of Canned Fruits and Canned Salmon are incomparable, and we will make prices F.O.B. or C.I.F. for Great Britain, Australia and the Colonies.

#### OUR NATIVE WINE SHIPMENTS SEA.

# PER P. M. S. S. CO'S STEAMER SAN BLAS, MARCH 27th, 1888.

TO NEW YORK.

		202111		
MARKS.	зигрекз.	PACKAGES AND CONTENTS.	GALLONS	VALUE
A in diamond,	S. Lachman & Co.	12 barrels Wine		
A th diamond	gt Co	I half-barrel Wine	646	8242
B in diamond	44	S barrels Wine	404	242
A V Co	Schilling & Co	200 barrels Winc,	8,501	3,400
11	6.6	25 casks Wine	2,638	955
LG	C Carpy & Co	28 barrels Wine	1,244	150
6.6	68	1 half-barrel Brandy	25	50
G M		25 barrels Winc	1,200	375
W & S S	44	25 cases Wine		90
		I cask Wine	60	30
FO		38 barrels Wine,	1,885	918
A 11,.,		18 barrels Wine	1.500	1100
**		8 4 puncheous Wine	1,769	889
A Py	Lenormand Bros	65 barrels Winc	3,328	1,637
R in diamond		200 harrels Wine	9,931	9,931
H M	"	50 barrels Wine	2,493	2,493
C in diamond		72 barrels Wine	4,300	2,500
R D Co		25 half barrels Brandy	615	425
C	J Gundlach & Co	90 barrels Wine}	4.308	1,665
	4.	1 keg Wine	1,612	1,000
V in diamond		10 paneheons Wine	10.184	3.657
K & F		200 barrels Winc	240	120
		1 casks Wine	210	120
M B		G casks Wine		
I R & Co		2 casks Wine		
E J		4 casks Wine	1.110	520
B T & Co		4 Casks willetteretteretter	1,110	320
Manal amount of Miles	0=1		55.866	\$30,701
Total amount of Wine,	Zo cases ood		670	475
Total amount of Brandy			010	-110

	TO CENTRAL	L AMERICA.		
N S. Corinto	A Greenbaum & Co	1 case Whiskey		\$8
D D, Corinto	14	2 half-barrels Wine	54	35
-, -,,,,,,,,, -	+6	1 case Whiskey	1	13
84	- 11	5 cases Wine	1	34
J & J. Corinto	Sperry & Co	3 kegs Wine	45	20
J D. Puntas Arenos		4 barrels Wine	80	60
J S, Acajutla	41	2 cases Whiskey		78
K A, Champerico	McCarthy Bros & Co		Ì	49
A Co, Acajutla	Wilmerding & Co	1 barrel Brandy	49	124
B K, Acajutla	11	1 barrel Whiskey	38	152
T M P, Acajutla	- 11	1 barrel Wbiskey	39	158
E H, La Libertad	John T Wright	6 packages Whiskey		162
J A Champerico.		6 kegs Wine	60	40
E A, La Libertad		3 barrels Wine	60	60
F E & Co		100 kegs Wine	1,G00	820
Puntas Arenas	11	2 kegs Wine	24	12
D O, Acajutla	I H Dieckman	10 cases Wbiskey	24	95
A L & Co, Acajutla	16	1 keg Wine	34	23
F M, Acajutla	R Draving & Co	10 kegs Wine	100	110
H D. Acajutla.	14	7 half barrels Wine	188	170
14	14	I barrel Brandy	47	130
J M, Acajutta	44	2 barrels Wine	97	110
C F, Acajutla	46	3 half barrels Wine		210
C 2, 100 junia		2 kegs Wine	112	
S G, Acajutla	6.6	6 cases Wine		130
F A. Corinto		2 barrels Wine	95	25
L L S, Puntas Arenas.		2 casks Wine	65	
D II D, I uniono attentas.,	non cr & I tonning	a chord without the tree		53
Total amount of Wine 9	5 passe and		9.614	

Total amount of Brandy Total amount of Whiskey, 10 cases:	and.			···· '	96 101
PER HAWAIIAN STEAMES AT	STEALIA FOR	Honolulu,	March	27th,	1888.

W H Hot me

ALW A		3 Regs Wine	30)	\$32
W C P	B Drevfus	5 barrels Wine		
14	1.6	12 half-barrels Wine		
44	16	90 kegs Wine		
44	- 4	50 kegs Wibe	1,705	1,200
G J W	C Carny & Co	1/2 puncheon Wine	58	35
М М	64 CO.,	% cask wine	34	20
Rev F L	1 Pinet	2 half casks Wine	70	39
		110 cases Whiskey		1,035
14	Spenance Studen & Co	55 cases Whiskey		434
L & Co	optuance, statiles a co	12 cases Whiskey	i	96
11	46	5 half-barrels Whiskey	1	277
FAS& Co	C Chillian h Co	3 casks Wine	184	125
L A S & CO	L then the to Co	S cashs wille	109	24
O W M h 41-	3 Gundach & Co	4 cases Wine.	475	475
O W at & Co	Konier & van Bergen .	95 kcgs Wine		
"	1 "	30 keys Wine		300
::	1 11	G half-barrels Wine	162	160
		20 cases Winc		100
	"	5 cases Wine		25
		60 kers Wine		365
		5 cases Wine		35
P C C	. O O Camaimos	1 balf barrel Wine	27	10
Total amount of Wine,	34 cases and		3,443	\$2,920
Total amount of Brand	y, 5 cases and			25
Total amount of Whisk	ey, 117 cases and			1,842

#### PER P. M. S. S. CO'S STEAMER SAN JOSE, APRIL 5th, 1888:

T	NEW '	YORK.			
J KA Erz		barrels Wine.		1,245	8220
L P C Carny & C	1 10	barrels Wine.		480	193
FB&S	15	barrels Wine .		720	288
L F M Win T Colen	an & Co., 8 b	arre's Wine		396	210
A B C Carpy & C	11	barrels Wine.		528	210
J in diamond Kohler & Va				11.313	11,313
11			y	492	984
C B M A G Chanche				60	75
G F F Canco	20	barrels Claret		963	385
v s	20	barrels C aret		963	385
	1.1	alf barrel Bra	ndy,	26	60
A KyLenormand	Bros 40	barrels Wine.		1'898	590
F D	ZI		ioe	71	98
11 (1	11 0	ase Wine		8	12
14 11	4.1	parrels Winc		121	85
11 11	1 c	case Wine		- 5	9
L O in diamond S Lachman	k Co 25	barrels Wine.		1,283	385
H F in djamond	50	barrels Wine		2.552	1,091
46 (1	11	eg Wine		15	11
	1 0	ease Wine			50
M in diamond	40	cases Wine		11	160
Z M	11	barrel Wine		50	3'
B B Lachman &	Jacobi 25	barrels Wine		1,245	876
Diamond	15	barrels Wine.		756	303
F A	25	barrels Wine.		1,261	351
J L	48	barrels Wine		2,379	946
	4 !	half-barrels Br	andy	179	224
8 & Co Stetson & A	dams 10	O barrels Win	e	5,060	1,619
GJ Gandlach				4,242	2,301
Total amount of Wine, 41 cases and					
Total amount of Brandy				627	1 278

TO	CENTRAL	A MERCIPIA
10	CEMILITAL	ALDERSON V

ı	CPE, Pantas Arenas W Loaiza	1 barrel Wine	511	23
ı	A E J. Puntas Arenas J Gandlach & C	5 cases Wine		20
ı	C. C. Puntas Arenas	4 barrels Wine,	187	125
ı	T de B, Acajutia F Daneri & Co.	9 kegs Winc	45	45
ı	M B, Acajutla	I case Whiskey		11
ı	t.	2 case Brandy	- 1	10
ı	11	14 cases Wine	- 1	513
ı	L.G. La Libertad E L. G Steele &	Co 1 harrel Wine	43	42
ı	B B & Co, La Libertad W L & Haas		88	163
ı	J D, La Libertad Wilmerding & C		79	318
ı	14	1 barrel Brandy	40	110
ı	N D, La Libertad "	t barrel Wine	441	120
ı	G & M, Camperico Eng de Sabla &	Co 50 cases Wine	1	150
ı	J A, Champerico	12 cases Wine		50
ı			—-h-	
ı	Total amount of Winc, 81 cases and		326	\$511
1	Total amount of Brandy, 2 cases and		84	246
ı	Total amount of Whiskey, 1 case and		1G.	492
1				
ı	T	O MEXICO.		

N & Co, Manzatlon Redington & Co	5	\$10
V II, Manzatlan Thannhauser & Co 2 kegs Winc	40	41
C R & Co, Manzatlan Cabrera, Roma & Go . 2 casks Claret	120	68
P N C, Acajutla W Loaiza 2 ca-ks Wine	124	81
II A Manzatlan	131	60
Total amount of Wine	420	260

#### TO NORWAY.

D & B, Christiana	Hirschler &Co	30 barrels Wine	1,457	8997
	MUCCULTANTO	TIG CHIEDMINING		

#### MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL	RIO.	GALLONS.	VALUE.
Kahulin Victoria Pahiti	W H Dimond	Barkentine Stcamer Barkentine	35 48 572	\$26 72 233
	***************************************		655	\$331
Total shipments by Pan Total Miscellaneous shi	ama stesmers	96,8 5,5		\$59,453 4,248

LIQUID ALBUMENS,

#### FOR CLARIFYING AND PRESERVING WINES.

The undersigned having been appointed Sole Agents on the Pacific Coast by Messrs A. BOAKE & CO., STRATFURD, Eng., for their renowned

# LIQUID ALBUMENS,

Beg to call the attention of Wine Growers and Wine Merchants to the following articles, the superior merit of which has been confirmed by Silver Medals, the highest awards given at the International Exhibition of Paris 1878, Bordeaux 1882, and Amsterdam 1883, viz:

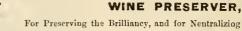


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Zinfandel, Claret, Borgundy and Port.

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Riesling, Gntedel, Sauternes, Sherry and Madeira, also for distilled liquors; Whiskey, Gin, etc., etc.,



For Preserving the Brilliancy, and for Nentralizing excesive acidity of White Wines only.



### WINE CORRECTOR,

For Correcting the Roughness of Young Wines.



#### WINE RESTORER,

For Restoring Badly Made or Badly Treated, Harsh and Acid Wines.

A trial according to directions will prove the Superior Qualities of these Finings For sa'e in quantities to suit by

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the much less than other Harrows, sells about one-third less, and with all does the most thorough work

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211, 213 and 215 J ST, SACRAMENTO. A Complete Assortment of the Latest Improved Tools for the

Orchard and Vineyard. Send for new Catalogues of Agricultural Implements and wagnns,

#### THE RESCREEK RESTREED

At the Episcopal Church in Riverside March 25th, the R.v. B. W. R. Taylor preached a sermon which has been the cause of much discussion in that thriving town. The part of the sermon which has been most commented on is as follows:

But even high licence fails to remove drunkenness from our midst, and there are some thoughtful men, who tell us that our legislation is entirely wrong; that we should discriminate between the kinds of liquor against which we legislate, sincdifferent kinds of liquor contain different quantities of alcohol, some being directly injurious and others distinctly beneficial. And the arguments they bring forward cannot be overlooked. They have a solid mass of facts and statistics which neither prohibition por high license can show. Their argument, in a nutshell, is this: Increase the tax on whiskey, brandy, rum and ardent spirits, and lessen the tax on light wines. ale and heer. This will cheapen the lighter kinds of liquor and make dearer the articles containing the greatest percentage of alcohol. They say that nine out of ten men would prefer to pay five cents for a glass of claret or angelica than twenty five for a glass of whiskey, and it would not do them one-tenth as much harm. There is a good deal more reasoning in this than appears at first sight, and it is a matter to be well thought over. The advocates of this system point to England, where brandy, ram, gin and whiskey are cheap and wins is dear, at the most dranken ustion on the face of the carth, and to France, Germany, Spain and Italy, where the reverse is the case, as the most temperate. If California, by the manufacture of a pure, light wine, should drive the heastly whiskey business out of the country, den't you think the United States would be far better off, morally, physically, socially and financially?

I don't believe the Almighty gave us the golden grain of our harvest fields for the purpose of making whiskey, any more than he gave us the sugar cane for making rum. Man has prostituted the use of these natural productions in manufacturing them into intoxicants. But I do believe that God gave us the fruit of the vine for other purposes besides eating them as grapes and making raisins. The "wine that maketh glad the heart of man" is spoken of in the same passage of scripture as corn and oil, and referred to as gifts of God.

#### MODERN EXPLOSIVES.

The composition of some of the modern high explosives, according to the Engineering, is as follows:

Dynamite: 75 parts of nitro-glycerine and 26 of infusorial earth.

Dualine: 50 parts of nitro-glycerine and 20 of nitro-cellulose or gan-cotton,

Rendrock: 40 parts uitro-glycerine, 40 of nitrate of potash or soda, 13 of cellulose, and 7 of paratine.

Giant Powder: 36 quarta of uitro-glycerine, 48 of nitrate of potash or soda, 8 of sulphur, and 8 of resin or charcost.

Mice Powder; 52 parts nitro glycerine and 48 of paiveriz d mica.

Tonite: 521/2 parts of gun-cutton and 471/2 of nitrate of baryta.

Blasting Gelatine; 92 parts pitro-glycerine and 8 of gun-cotton.

Allas Powder: 75 parts of uitro-glycerine, 21 of woodfibre, 2 of carbonate of magnesia and 2 of nitrate of seda.

Rackarock: 77.7 parts of clorate of potash, and 22,3 of nitro-benzol.

It will be noticed that nearly all the above explosives are composed principally of nitro-glycerine; and it is probable that in most cases the other ingredients only act as absorbents of this liquid, and really adds nothing to the explosive power. The decomposition of nitro glycerine is practically instantaneous, and the slower-actine nitrates and hydrocarbons must be left far behind when the mass is exploded. The power of all these substances is due to the paradoxical element nitrogen, which is by tself the may pentral and inactive of all the elements, but when forced into chemical combination, usually confers au element of weakness upon the entire molecule of which it forms a part.

#### AN ENFERMENTED WINE

One man of the present deserves well of his day and generation-and that is the man who has brought fresh grape juice in use again. The absolute luxury of a draught of pure grape juice, just as it leaves the press, and filtered from sediment, is only to be judged by those who have tasted it. It is what it purports to he, wholly grape jaice, undiluted, unsweetened, unfermented delicious as the wine in the cluster, innocent as mountain water, health-giving as the fountain of youth. It is the most beautiful liquid in the world, deep, rich in color as fluid gems; all fermented wines being pale beside it, for they are diluted, while this is the full blood of the grape of sweet and divine odor. Its effect is simply wonderful in restoring strength.

For years, daily, after working up to 11 o'clock mornings, th re has come that reaction, the fatigue which writers and nerv ous people know, that no food or medicine ever seemed to relieve, and which made the rest of the day's work a dragging effort. A glass of the grape juice changes all this, and on three or four glasses a day I work with an ease and sustained strength which makes me a novelty to myself. It is food and drink both, like milk, only a thousand times better; and, though no v getarian or dietist, I had rather live on crackuels and grape juice wholly than go without it. banishes bilions and dyspeptic symptoms, humors and consumptive ailments, like magic. Here I stop, not for want of more to say, for this subj ct is birely begun, but it is best to leave each p rson to test it for himself. It is easily done. Anyone can squeeze a pound of grap's in a towel and atrain the juice for drinking at once, after the imperial court fashion ages ago. A delightful little hand-press with porcelain sockets, sold for \$2.00, does the work much better. Once people get a taste of this blissful fluid, there will be no dauger of raising too many grapes in this country or any other; especially as it is perfectly easy to put up this pure grape jnice so that it will keep unfermented, auchauged, fresh as when it left the cluster, for twenty years. Don't say it cau't be don't it has been done for centuries. You can taste it in New York shops fresh from the press before your eyes, and bottled for years, and you can't choose between the two. The grape grower whose intelligence provided this treat for the public, has done a very good thing for his own profit, but a better one for the country, both for growers and consumers and the next five years will prove the strength of these words .- American Garden-

To remove fruit stains, rub with whiskey or camphor before being washed.

### A SEA OF GRAPE VINES Northern California's first vineyard, says

the Gilroy Advocate, was planted when the

region surrounding it was a howling wilderness of tall grass, a shrubbery, and forests. and Indians and wild game were plentiful. The venturesome vineyardist who plant d his grapes in this part of the state was Peter Lassen. His vines were set out at what is known as Vina, Tchama county, about one hundred miles north of the city of Sacramento. Lassen was one of the old est pioneers, and many of his vines were planted forty years ago. They have attained a wonderful size and yield abundantly. The property then fell into the hands of a German named Henry Gerke, a practical vineyardist, who made additions to the plant, until there were seventy-five acres in grapes. He built a winery, and it became noted throughout the Pacific Coast for the excellence of the wine produced. The Gerke vineyard soon became known as one of the largest in California, and furnished employment to a large number of men. But the property once more changed hands by S nator Stanford purchasing it in Septemb r, 1881. His interest and enthusics m in the development of northern California was great, and his vast wealth permitted him to proceed upon a most extensive scale His purchase was not confined to the vine yard alone, but thousands of acres of ad joining land was bought until now his posessions amount to fifty-six thousand acres, He worked a complete revolution on the rauch. The most experienced wine-growers were employed and set imm-diately to overhaul the old vineyard and to set out new vines. Hundreds of men were put to work to preparing the land, and from 1882 to 1581, one thousand acres were added to the vineyard, and since then more extensive additions have been made, until now he has nearly four thousand in full bearing, m king the largest vineyard in the world. It is intended to make still further additions, and in a few years the Vina vine yard will have no less than five thousand acres.

#### WINE PRODUCTION IN PRANCE

The attention of Bonforts Circular has been called by Messrs. Denis, Mounic & Co., of Cognac, to a ridicelous article that has been going the rounds in which an endeavor is made to show that the vineyar is of France are almost destroyed, and her power of production vitally injured. The statements in the article are so glaringly autrue that it is difficult to believe that so transparent a tissue of lies can do no harm. In order to cunfute It, nothing more is necessary than a glauco at the report of M. Tisserand, the Commissioner of agriculture, laid before the Phytloxera Commission on the 17th ait.

The report states that the whole number of departments in which phylloxers has been ascertained to exist up to the beginning of 185% is 60.

There are still in France 1,944 15) hectares (4,860,375 acres) of productive vineyards, the largest area possessed by any country in the world. The Commissioner says very truly:

"These figures make a perfect answer to the malevolent reports that some persons. for a reason easy to comprehend, are circulating abroad and that are intended to produce the impression that our vineyards are almost annihilated, and that we have no more wine to export. Our great growths will always exist, and will never cease to weight.

produce the generous wines that are one of the glories of our production, and that we are now sure of preserving.

We have ou several occasious given the figures of the production of France, and repeat them here now merely to show the folly of the statements of the article of which we speak. The production of wine in France in 1887 was 792 000,000 American callons.

We are sorry that candor compels us to add that the foolish reports of some of our consuls have given rise to much of this silly talk.

#### OLIVES.

Speaking of the peculiar adaptability of Santa Clara County for olive culture, the Santa Clara Valley says: Every horticaltural paper, and in fact almost every paper, has had so much to say about olives of late, that it seems almost superfluous to add very much to what has already been said upon this subject. That there has been an incressed planting of olive trees is evident from the reports of nursery men and others who have trees for sale. On a recent visit to the Quito Olive orchard we found tho workmen packing up many barrels of cuttings for shipment to some distant point. In the face of all this the price of olive oil goes on increasing, and people grow more and more to love the pickled olive, thus making the prospects of profit in olive culture more and more bright.

There is much land in Santa Ciara County better adapted to olive culture than anything else, unless it be grapes, and there is plenty of land for both. So those who are thinking of planting olives we would recommend as the results of our observations, planting 33 feet apart each way, and and at the same time planting grapes 814 feet apart with such vacaucies as are required where the trees come. Crops will be gathered from them in three years, and it will be from six to ten years before tho olives really pay, and still longer before they will need the whole space. Peach trees might be planted 1614 feet apart, and these will give a crop usually at two years, and every year afterwasds, and the peach trees can be removed as soon as the olive trees crowd them any. Nearly as many p aches can be raised as there could be if there were no olives and the peach trees planted 20 feet apart, the usual distance. The olive needs good cultivation and close attention to keep it free from scale, but it will pay as well as anything that can be planted.

#### An Alphabet of Jewels

An alpa do t of precious stones has been formed-indeed, there are two alphabets, one for transparent and one for opaque j wels, but of the latter a few like turquoise, ja-per and onyx hardly come under the head of precious. The alphabet of trausparent comprises amethyst, beryl, chyrso-Lurgh, diamond, emerald, felspar, garnet, hyaciuth, idiocrase, kyanite (more commonly cyanite, a blue mineral, lynx sapphire, wilk-opal, natrolite, opal, pyrope, quartz, ruby, sapphire, topaz, uranite, vesuvianite (a species of garnet), water-sapphire, xauthite and zercon (a Cingalose stone). It is perhaps not generally known that a large ruley is of more value than a large diamond. For a perfect ruby of five carats, it is said, a sum will be off red ten times of Borgundy, of Champagne, of the Gironde the price given for a diamond of the same



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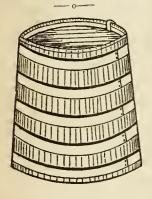
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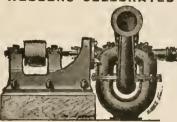
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VOL. XX, NO. 2.

SAN FRANCISCO, APRIL 27, 1888.

PRICE 15 CENTS

### How to Destroy the Galifornia Grape-Vine Hopper.

(Appendix 2 to the Aquital R port of the Chief Executive Viti ultimal Officer for 1888.

The description of this insect and its habits are taken from "Harris's Insects Injurious to Vegetation," page 227, which reads as follows:

"The vine hopp rs, as they may be called, inhabit the for ign and the native grape vines, on the und r surface of the leaves on which th y may be found during the great r part of the summ r; for they pass through all their changes on the vines. They make their first appearance on the leaves in June, whin they are very small and not provided with wings, being then in the larva state. Duri g most of the time th y remain perfectly quiet, with their beaks thrust into the laws, from which th y derive their nourishment by saction. If di-turb d howev r, they leap from one leaf to another with great aginty. As they increased in siz they have occasion frequently to change their skins, and great numbers of their empty cast-skins, of a white color, will be found, thoughout the summer, adhering to the under sides of the leaves and apon the ground b neath the

When arriv d at maturity, which gener ally occurs during the mouth of August they are still more agile than before, making use of their delicate wings as well as their I go in their motion from place to place; and when the leaves are agitat d, th y leap and fly from them in swarms, but soon alight and hegin again their destructive operations. The infested haves at heigh b come yellow, sickly and prematurety dry, and give to the vine at millsummer the aspect it naturally assum s on the appreach of winter. But this is not the only inqury arising from the exhausting punctures of the vine hoppers. In c us qu n e of the interruption of the important functions of the leaves, the plant its if languishes, the stem do s not increase in size, very little new wood is formed, or, in the language of the gardeners, the caues do not ripen well, the fruit is stunted and mildews, and if the evil is allowed to go on unchecked, in a few years the vines become exhausted, barr n, and worthless. In the autumn, the vine hoppers desert the vines, and retire for shelter during the coming winter beneath tallen

leaves, and among the decayed tafts and roots of grass, where they remain till the following spring, when they emerge from their winter quarters, and in due time, deposite their eggs upon the leaves of the vines, and then perish."

As observed in California the hopper makes its appearanc - much earlier and has been seen on their vines with the first warm weather of April. It continues its deproda. tions even up to Octob, r and has been observed infesting the rubbish of some vineyards all winter long. The most injury is done by them in defoliating the plant thereby subjecting the grap s to sunburn and causing their failure to ripen. Their first appearance in spring is usually on the outside rows of the vineyard, particularly on those rows hordering grassy plots or uncultivated fi lds, from these they sprend in a few weeks to the oth r portion of the fi ld vineyard. With a knowl dge of this fact the vinevardists may oft u head them off from a greater part of the vineyard by treating the first infested vines at an early

The ordinary operations of spring vineyard work, viz. plowing, entitivating and clod-mashing, destroy the eggs and larva of the insects, which are found on the rubhish and leaves of the previous year, but they may still be looked for coming from the surrounding fields if such there are about. Burning the adjoining fields would prove a valuable auxiliary to their destruc-

#### THE REMEDY.

Little difficulty has been experienced of late in destroying insects which prey directly upon the foliage of the plant. A resort to poison, where it may be had, has usually proved satisfact ry. The subject of this treatis, however is much mor difficult to eradicate in that it derives its nonishment by sucking the sap from the cells, to poison which would in an the destruction of the same. Most pro inent among the remedies propos d in the past few years have been spraying with toxical solutions, whale oil so p b mg for most. Sulphuring in the early part of the season has been advocated as a partial remely. Carrying a lighted torch through the vin yard has also heen suggest d. An important aid to their destruction has be a braight about by

leaves, and among the decayed tufts and roots of grass, where they remain till the following spring, when they emerge from general remedy.

During the past week experiments have been conducted by mys if at the "Olivina" vineyard, near Livermore, where with the assistance of Mr. Smith, the proprietor, I have been able to devise a means which proves a complete success.

First, however, to test the value of previous experim uts, we resort to spraying, sulphuring, etc. The following solutions were employed:

1st. One pound of whal -oil mixed with one pint of syrup and then diluted with one gallon water.

21. One-half gallon of syrup with one gallon of water.

31. Two pounds of whale-oil sonp to one gallon of water.

4th. Four pounds of whale-oil soap with one gallon of water.

Each and all of these were carefully applied to the infected vines by means of the Cyclone nozzle.

The strongest solutions of soap were such as to born the tender leaves of the vine, so noticed a day or two later. The strongest solutions of the syrup likewise proved Astrimental to the foliage; but with all a like the hoppers continued their work andistorbed. Twenty minutes after the applications were made, and they were made thoroughly, the hoppers were found on any and all of the vines treated and in as great abundance as b fore. In many cases th y had been forced to the ground by spraying, where it was thought the wings would become clogged and their further recovery thereby prevented. A short time afterward, however, careful search reval I their absence from the ground and r medies of this charact r were never lingly abandoned.

Sulphur has been dusted on the vine tosuch an extent as to render the foliage yellow, but shortly afterwards the hopperswer found unjured and continued so.

A torch carried at might has proved a

#### EARLY MORNING TRUE

vocated as a partial romely. Carrying a light of torch through the vm yard has also been suggested. An important aid to their destruction has been brought about by turning sheep into the vineyards in the fall, whereby the eggs and insecs are caten on the foliage or tramped and refeet. This, stroyed. Still the apparatus for this pure

pos most be so elaborat and expensive as to form a potent objection to its use for operations on a large scale. For this I therefore substitute a screen made out of green wire gauze, such as is or linarily employed for window screeus. The gauze should be str tched over a frame made of stiff wire, forming a ser en circular in shape and about two and a half feet in diameter. A slot in one side will enable the screen to be placed immediately under the vine, the whole being attached to a stick in such a manner as to form a handle. We now have a trap for morning and evening work, for, by placing the seren under the vine, the hoppers will fall re dily on to it; when there, they expire immediately if distorbed. Previously the screen has been coated or smeared over with common kerosene. A piece of cauton flaunel or other heavy cloth, fuzzy side up, may be stretched under the ganz and will serve to keep the screen oiled; for after some exposure the oil loses its property of killing at first coutact In fact for this screen a cloth without the gauz may be employed, if desired.

#### THE MIDDAY TRAP.

HOW TO MAKE A SIMPLE TRAP FOR MIDDAY WORK.

For day work, which is the time when most of the operations must be conducted where large areas are to be treated, a different contrastic must be formed. For particular instructions, the following will direct any one:

For short prune varieties, first: The operator should be previled with 20 feet one-fourth-inch iron rod, or an equal length of heavier wire approximating to this in siz. Cut two pieces s ven fe t long each and two piers thre fe t long each. these, two semi-phores may be made with ad our ter of about two feet (th se me asures may be incr as 1 1 rp retionately to make a large trap . A strip of green wire gaoze six feet long and three feet wide will answer to e ver the trap. The gauze should be the material commonly used in win low screens, and worth about two and a half to three c nts per square foot. Do not try substituting of the for gauze, for or experiments proved it inapplicable. Bond the seven-foot length in a circle three fort in diameter, turning the ends together and twisting them outward to serve as a handle. Cras the circle with a second

bend in a circle ontward; this forms a kicks the atump of the vine below if using semi-sphere. Now cover the whole with gauze, which may be sewed on like the parts to a cover of a base ball, attached by means of a string.

Make a second semi-sphere similar in every respect to the first, and such that the two when brought together, form a complete sphere.

The circle of the first semi-sphere may be provided with a notch to accommodate the body or trunk of the vine, thereby en abling the operator to completly cover the plant and provided against the escape of the hoppers.

Care should be taken in forming the notch to see that it is so placed in relation to the handle as to enable the operator to stand partly over the vine when bringing the trap together.

The gauze of this trap, if rubbed over with a cloth or swab, saturated with kerosene, will retrain enough to kill immediately the hoppers alighting thereon, experience has proven, however, that after a little exposure the kerosene loses its greatest effectiveness and the hoppers are therefore enabled to take a second jump and assisted by falling may escape through the opening or joint below. To obviate this and avoid the necessity of replenishing the kerosene so often a piece of flannel or similar cloth should be drawn tightly and sewn over the bottom part of each semi-sphere, the edges turning upward into the trap as it appears when closed, so that any of the victims tumbling down will lodge between it and the gauze where the density of the oil will end their endcavors to escape.

ANOTHER AND BETTER FORM OF TRAP.

I find that for different vines, different shapes are preferred. The following described appliance is the best and most commonly used at the time of this writing, though somewhat more expensive than the first named.

Frame two semi-cylinders, using for this purpose iron band 1/8 inch thick and 1/2 inch wide, which should be joined with rivets at the corners. These parts should be hinged together with small butts, which may be riveted to the frame, such that when covered with green gauze it may be opened and closed over the vines. This trap needs no top, but should be provided with a bottom of either heavy cloth or what is better still, two semi-circular tin pans about 11/2 inches deep, and so formed that in coming together to form the circle, a space is left for the stump of the vine and stake, say eight inches long and three inches wide. A cloth or sponge should project from the edges of the hole to close completely about the vine when in use.

For vineyards under ten years old and some even older, eighteen inches is a sufficient diameter for the cylinder, which should be about 21/2 feet high to accommodate long primed varieties. The last dimension may, however, be modified to accommodate the shape of particular vines. A portion of the upper part of the frame left free will serve as handles or these may be added if desired, in which case they should be attached near the upper center of each semi-cylinder.

TO OPERATE.

Smear the gauze over with ordinary kerosene oil, to which a small amount of crude petrolem may be added if convenient, as this will serve to thicken it and render it more lasting. The oil applied by means of a brush or cloth as often as seems necessary.

The operator now approaches each vine

the spherical trap or disturbing it above if the cylinder is employed which causes the hoppers to fly off, and, encountering the gauze, comes in contact with the kerosene which kills them immediately, or causes them to drop to the bottom where a second contact with the oil, leaves them unable to move. The trap should be retained about the vine for a moment to insure the destruction of all the victims before again opening it for their escape.

In our work, after making the parts according to the above description, and operating on a few vines, the green ganze was changed to a yellowish hue by the myriads of insects captured.

Either apparatus is light and easily handled,-they should not weigh over five pounds each.

With one appliance a man should get over several acres per day, and the total cost of treatment, including oil used, should not exceed mucb, 50 cents per nere.

To use the trap with best success, it should be employed at the present season. With the increase of foliage and enlargement of the vine, the trap must also he enlarged, becoming more cumbersome and more difficult to wield, though equally effective.

Very windy weather should be avoided for this work as many retreat into the ground at such a time, and the few remsining on the leaves are disturbed with great difficulty at such times.

When the air is still, or but little wind is blowing, and when the warm sunshine has removed the dew from the foliage,-then the most favorable period for general success.

A great advantage in early season work accrues from the destruction of the insects previous to the time of laying their eggs, thereby lessening the chance of damage.

Vines laying on the ground, like those pruned on the Chaintre system, or those tied to wires, would require a semi-cylindrical screen lined with cloth on the bottom, which latter should be turned up to prevent their tumbling off, the screen being so formed as to cover the foliage. Extermination in this case would prove more difficult, as we have no means of catching those which drop on the ground. But by operating in the heat of the day, and when a slight breeze would take them on to the screen, the insect will fly to it and be completely entrapped by the oil which has been placed on the gauze and cloth.

Before closing this treatise, I desire to express particular acknowledgment to Mr. J. P. Smith of the Olivina vineyard, and to his toreman, for their kind assistance and interest in the experiments which have been conducted at Mr. Smith's place. To successfully accomplish our work has required no small degree of patience on their part, and I have to thank them for it and for their advice in devising the different means tried.

The hoppers have increased on the Olivina vineyard during the past three years to such an extent as to become alarming. Many leaves already put forth are withered by their attacks, and some other sections report a similar condition of affairs.

It is now my belief that prompt and energetic attention to the above detailed method will remove all fear of damage to the grape.

In the past two years the Commission has experimented with and provided ample remedies for all insects consuming directly the foliage of the plant. The arsenic and cautiously and enclosing it in the trap, bran remedy enables us to meet the grass- sect appears before the fruit is large, gallons of wine to the acre."

green or London purple mixed at the rate are sluggish. of 1 pound to 160 gallons of water will destroy other foliage-consuming insects, and has been proved innocuous to the fruit, vine or raisin. The scribe, the flea-beetle, and other insecis may likewise be trapped by the above described apparatus.

Up to this time the vine-hopper has proved a constant menace to the grower. but from this it is to be hoped dates our victory in the field.

J. H. WHEELER,

Chief Executive Viticultural Officer.

#### INSECTOIDES.

#### Remedies Suggested by the State Inspector.

The following condensation contains all the important features of a bulletin, which has lately been issued by the State Board of Horticulture.

CODLIN MOTH.

The remedies are Paris Green, London Purple and white arsenic. Of these Pari-Green seems the best, and the least liable to injure foliage, Use one pound to 180 gallons of water; use nothing but the Paris Green and water, stir it well and strain befor using. Spray early apples and pearonly once just as they are coming out of bloom. For later apples and pears spray again in ten days (or two weeks) with 200 gallons to the pound. Use Cyclone, Crafton, or Imperial Nozzel.

SULPHIDE OF SODA AND WHALE OIL SOAP Are recommended for trial for a third spraying a month after the second. To prepare this see farther on in this article. One spraying of Paris Green is generally enough, but when there are infested orchards around, it is safer to give a full coarse of treatment.

POISON.

All arsemic mixtures are poison. Look out for stock, and for cuts and wounds on your hands. No great danger otherwise.

Continue to use bands a foot from the ground, examining every week and also put rags in the crotches of large trees.

WOOLY APRIS AND PLUM APRIS.

To kill these above ground use: Rosin, 4 pounds.

Sal Soda, 3 pounds.

Water enough to make 41/2 gallons. Dissolve soda in a few pints of water,

add the rosin, heat till this is dissolved, then add the rest of the water. Use 11/2 pints of this atrong solution to a gallon of water, and use it heated to 100 degrees Fahren-

BED SPIDER.

Spider's egga are hard to kill without hurting the trees, but sulphur washes, applied in summer, will keep them down. If spiders are plenty and weather hot and dry, one application will not be enough. Try the aulphide of soda wash, as for scale insects. Also try the following: Take the 41/2 gallons sal soda and rosin solution as prepared for spider, add 50 gallons of water and 11/4 pounds sulphur dissolved in a pound of lye. Spray this on and dust the trees over with sulphur, using a bellows as soon as possible after the spray is on. Select a calm day. This will last a long time.

Spray with kerosene emulsion if the in-

hopper plague successfully, and Paris Spray early in the morning while the hugs

Kerosene, 2 gullons.

Common or whale oil sonp, 1/2 pound. Water, 1 gallon.

Heat the soap and water, boiling hot, and add to it the kerosene, and churn it with a force pump and spray nozzle for ten minutes. The emplsion, if perfect, will form a perfect cream which thickens on cooling, and adhers without oilness to surface of glass. Dilute one gallon of this with nine gallous of hot water, and use as a sprev.

After the fruit gets larger drive them out of the orchard by fumigation. Try a fire with a little wood tar in it.

STRIPED SQASH BUG.

A pail of water, a tablespoon of saltperer, A pint of this around every hill of squashes or melons.

The auspicious time to treat these is when the majority of the insects are hatched. Watch for this time. Look out for he first brood of Aspidiotus perniciosus when the cherries are turning color.

As a general useful wash the sulphide of oda or sulphide of potash, with whale oil, ias proved satisfactory,

11/2 pounds of sulphur.

1 pound of concentrated lye or powdered caustic soda 4-5 pound, or caustic potash, 1 pound.

14 pounds of best whale oil soap (80 per cent).

55 gallons of water.

Dissolve the lye in one gallon of water, and boil the sulphur until dissolved. Dissolve the soap in the water, mix the two and boil them a short time; use at 130 degrees F. in vessel

This wash is useful not alone against young scale, but against the scab disease of pears and apples, also against leaf-eating insects, as saw-fly larve and pear-sleg. It will, however, be found that whenever Paris green has been used these insects have been killed.

The above wash is applicable to stone fruits as well as to pears and apples.

RESIN SOAP.

This is recommended by Sol. Runyan, Conrtland, Col., for scale insects on decidnons trees, to be sprayed on fruit.

10 lbs. caustic soda, 98 per cent.

10 lbs. potash.

40 lbs, tallow.

40 lbs, resin:

1. Dissolve soda and potash in 10 gallons water and put into a 50 gallon barrel.

2 Dissolve the tallow and resin together by heating. When dissolved add them to the soda and potash in the barrel and stir for ten minutes. Leave standing for two hours, and then, with constant stirring fill up with water. Use next day, a pound to the gallon, warm. This is best for apples and pears.

The Anglo American Times says: "California had in 1880 over 35,000 acres in vines, which had increased by last year to 132,000 acres, of which 50,000 acres were bearing. Three years hence there ought to be 100,000 acres bearing. With them the average is about four hundred gallons to the acre. Three years from now California ought to produce 40,000,000 gallons. At the low price of twenty-five cents per gallon, this means a revenue of \$10,000,000. The vineyards in France cover 9,500,000 acres, which in good years average two hundred

#### ADELTERATION OF WINES

#### From the last report of the United States Department of Agriculture

The adulteration of wine has been practiced from a very early date in the se countries where the consumption is large. It has increased in amount and in the skillfulness of its practioners until at the present day it requires for its detection all the knowledge and resources which chemical science can bring to b ar upon it, and even then a large part doubtless escapes detection. It must be remembered, however, that in Europe the definition of adultersti in has rather a wide scope, including the addition of substances which are simply dilutents. The Paris Laboratory considers as a fraad "the addition of any substance for the purpose of gain which changes the composition of the natural wise." In Germany, on account of the northern situation of the country, it is permitted to the wine growers in badycars, when the grapes contain a relatively high percentage of sugar, to make use of pure sugar as an addition to the most, which condition is not considered as an offense against the adulteration laws, so long as the product is alld as "wine" simply. The amount of water added with the sugar must not be greater than twice the weight of the former, and the product must not be off red for sale as "nutural win ...

By far the greater part of the adulteration carried on in the European countries conaists of this addition of wat r (movidage) and sugar (storage . Such wines result from the methods of manufacture already described-petiotization, gallization and chaptalization. For the d teeti in of such wines, it is necessary to establish maximum and manimum limits for the pri cit il constituents of wines, and the relation in which these constituents stand to one another To establish the se limits is rather difficult. and requires a large sories of analysis extending over many y ars. The constituents most relied on for the est blishment of the character of a wine in judging whether it has been diluted or not, are the extract, content of free acid, and the relation between the extract and min ral matters.

In Germany the lowest limit of t' e extract in a natoral wine is placed at 1.5 grams in 100cc., and after subtracting the amount of free fixed acids calculated as tartarie from the extract, the amount of the latter left must be not less than 1.1 grams; or after the substruction of the total free acids as tartaric, not less than 1, gram in 100cc. In the Paris Laboratory no exact limits are set, the decision being left to the judgment of the analyst, after a careful comparison of the sample with analys s of previous similar wines done in the laboratory in past years. The sugar added is often glucose, which introduces into the wine substances more or less injurious, depending npon its character. Ordinary glucose contains usually 10 or 15 per cent. of nonfermentable substances, which serves to increase the weight of the extract, thus masking the addition of water. Its fermentation gives rise to the formation of a small quantity of amylic alcohol, which increases the intoxicating effect of such wines, and causes headache and nausea in those partaking of them.

In the detection of this sul stance advantage is taken of the non-fermented character of the dextrin it contains, and of the presence of amylin, a non-fermentable, highly dextrorotatory body found in commercial starch sugar. 50cc of wine, after liter.

driving off the alcohol by evaporation, are subjected to fermentation by the addition of a little well-washed yeast. After the fermentation is complete the liquid is clarified by means of lead or bone black, and polarized. If starch sugar has been used a strong rotation to the right will be ohs rved, while if the wine was natural, or if the sugar used was cane sugar, there would be no rotation. The f lowing procedare is also given by the German Commission:

Two hundred and ten cubic continueters of the wine are evaporated to a thin syrup un the wat r-bath after the addition of a few drops of a 20 per cent, solution of acetat of potash. To the residue is gradually add d with continual stirring 200cc. of 90 per cent. alcohol. The alcoholic solution when perfectly clear is ponred off or filtered into a flask and the alcohol driven off until only about 5cc. r. main. The residue is treated with about 15cc. water and a little bone-black, filtered into a graduated cylinder and washed with water until the volume measures 3)cc. If, now, this liquid shows a rotation of more than x 0.5. Wild, the wine contains the unfermentable matters of commercial potato sngar (amy-

I have made no trial of these methods on American wines, and give them simply as a reference. It is well known that American starch sugar, made from corn, is quite different in composition from the European article, which is usually made from potato starch, and I do not know that the presence of amylin has been demonstrated in the American article. Whether the latter contains much dextrin or not depends upon the character of the "glucose" used; if it is the liquid glucose, I can testify from experience that it con tains a considerable percentage of dextrin; but if it is the highly converted "grape sugar" or solid glucose that is used, probably not much dextrin is introduced into the wine from it.

Frandulent wines are frequently made from raisin or dried grapes in France, and according to French authorities, can easily be recognized by their high percentage of reducing augar, and left-handed polarization after fermentation.

The plastering of wines, which is also very extensively carried on in France, consists in adding to the wine or must, a large excess of gypsum, or sulphate of lime.

The sulphuric acid of the lime salt replaces the tartaric acid which is combined with potash, and forms an acid sulphate of potash, while the tartaric acid separates out as tartrate of lime. The operation is said to give the wine a brighter color and to enhance its keeping qualities, probably hy a mechanical carrying down of some of the albuminous matters. Some anthorities seem to regard the addition as a pardonnble one on this account, but most condemn it. It certainly introduces into the wine a salt entirely for ign to the grape and of a more obj ctionable nature than that which it supplants, viz., the bitartrate of potash. Both G rmany and France are in accord as to the limit of sulphuric acid which can be used in a wine, requiring a wine with a content of SO3, corresponding to over 2 grains of potassic sulphate (K2 SO4 per liter, to be designated as a plastered wine This figure affords a pretty wide margin, for the average content of win a according to most observers, is n t over ne-fourth of the standard, or 5 grams K2 SO4 to the

can be made directly by precipitation of the wine with bariam chloride, but is much more conveni ntly and rapidly carri dont as fullows

Take 14 grams of pure, dry, crystalized barium chloride, together with 5 lcc. hydrochloric acid, and make up to a liter 10cc. of wine are ns d, ev ry 1 c. of this solution required in l'este a coutent of 1 gram K2SO1 to the liter of win : accord ingly to a veral portions of win of 10cc., each are added, respectively, 0, 7, 1, 15, 2rc, and more if necessary, the solution heated, and all wid to stand. When col they are fi ter I, and a little more barium chl ride add d to each tist. The appearance or non appearance of a further precipitate in the different tests will show b .tween what limits the content of SO3 lies.

The use of starch sugar is also likely to introduce sulphates into the wine.

Fortification of wine consists in the addition of alcohol derived from some other source. The alcohol may be added to the must or the wine. It allows of better incorporation with the wine if it is added to the must before fermentation. In either case, however, it precipitates a part of the constituents originally dissolved, lowers the quantity of extract, deprives the wine of its original bouquet and flavor, and renders it more heady and intoxicating. The least objectional addition is alcohol distilled from grapes; but the high price of the latter renders it much less likely to be used than corn spirits, which contains considerbly more fusel oil. The practice of fortification prevails especially in the more southern wine-growing countries, as Portugal, Spain, and the South of France. Growers in those countries declare it to be a necessary addition to their warm climates for the preservation of the win-s, as these latter contain a considerable quantity of unf rmented sugar, which would soon produce the souring of the win- if the alcoholic content were not greater than can be obtained by fermentation. In France, for no considerable r duction is blain I in ordinary red wines, the addition of alcohol is decided by the relation of the alcohol to method. the extract (sugar deducted) exceeding sensibly the relation of 4 to 4, 5. In Germany the relation of alcohol to glycerine is relied upon, the maximum proportion allowed being 100 parts by weight of alcohol to 14 of glycerine and the minimum 100 to 7. Wines going above the maximum are condemned as having suffered an addition of glycerine, those going below the minimum as being fortified with alcohol. With "sweet wines" these figures do not apply, as they are based on natural wines made in Germany. Moreover, no definite stand is of such addition by chemic I m and rests taken upon the question of the fertification of the sweet wines from other countries sold in Germany. The Bayarian chemists, require the content of alcohol and sugar in sweet wines used for medicinal purposes to be shown on the label, a very excellent provision, for no two samples of sweet wine can be d pended upon to be of similar composition, and the physician is altogether in doubt as to what sort of a compound he is administering to his patient under the name of "port" or "sherry." Any wine with a higher percentag of alcohol than 15 per cent, by volume (12 their normal accepts by the adhten of per c nt. by weight can be safely declared to be fortified, for it has been shown that fermentation is arrest d wh n the alce holic content reaches above that point.

The preservative age is ad led to wine are entirely similar to those used in malt liquors. The subject of the use of salicy-

The determination of the sulphuric acid lie acid has been so thoroughly inv sti t i in the portion of the ball tin l v t l to be r, that a furth r tr atm nt f 's sabjet is unn cessary. The rich is fr detecti n and estimati n alr . lv g v n f r b r are applied equ (y will t was. The same may be sail of a phis and

> Mo eral ad lit' as to wine ar get ra'y introduced ac il ntally, the stron hy of the liquid making it very lit to utamination from metal iev as a paper, etc Lead oxid was son, times add d t wine to counteract exc s iv a ility in f rm r days, and Hosail gives ense of deaths traced to the us of such win s. additions b long probably to the dut retions of the past, although the positility of such a contamination should n ver b forgotten, especially if any of the samptoms of lead poisoning have been it lit ! by a suspected sample. The surch for mineral constituents in wine pr s nts no difficulties and need not be further dw lt

> Gummy suls ances ar s m tim s ad 1 1 to watered wines to mak no for th ir d ficiency in extract. Com arabic, or c mmercial dextrip, hav ben us d f r this purpose. The addition may b d t sted by the following methol, tak n fr m that German Commission: "10c", of .5 pr cent. alcohol are ald d to 4 c. of win and the whole well shak norif gu s r present the liquid becomes maky a d 1 s not clear up c mil te y after stanling several hours. The pregitate frmed adheres in part to the sides of the gess. and forms lamps. In genute wi , thk & form after a short time, which s bail and remain rather lose. For a mire xict test the wine should be evap ! syrup, extracted with ale h l, and the insoliable part dissolved in water. solution is tr at d with Icc. hydrochlerisoid, heated under pressur f r two h ars and the r ducing pow r as " stame I with Fehling's solution. With ginnin win s this way." I have made no trial of this

> The adulteration of win s by s ibst tuting for it, wholly or in part, the front l juices of other fruits, such as ciler, is a matter difficult of d teeti in. The pr seuce in such wines of malic acid and the abse of tartaric was form riy c n-il red a sufficient proof of the addition, but it is found that in had years malic acid often pr 1 minates in grape juice, and on the thr hand various causes may grattly rethe contest of bitartrate of p tosh, or ev n cause it to entirely di pp er. Th pr f chiefly upon conclusions drawn fr m th general e mposition of the sampl an lyz 1 Often the taste or olor of the risin f evaporation of the sample i self or of the distillate will give som cl w t su h addition. Often the rec gni i n of fr tartaric acid in such win s wit and mn th m as artificial, f r natural win - out in a very small amount, if any. I free a 1 according to the German Commission n v r more than one-sixth f th total fr fix d acids. Tartaric acid is oft n all las to wines which have been d prived I part I water or sugar solutions. The qualitative det rmination is as f ws.

To 20 or 30cc, of wi is add d promptated and fin ly powd r d b trate of pet sh, the whole well shak n and fit r l aft r stanling an hour. The lear shin in a lited 2 or 3 dr. psecia 20 percent little f acetate of potash, and the whole is allowed of aniline dyes, which are more readily to stand twelve hours. The shaking and standing of the solution must take place at as nearly as possible the same temperature. If at the end of this time any considerable precipitate has separated out, the quantitative estimation should be undertaken.

Foreign coloring matters are frequently added to red wines, either to brighten and improve the color obtained from the grapes, or, more frequently, to cover up the the effects of previous dilution. These colors may be of vegetable origin, obtained from the various vegetable dyes, or by mixing the juice of other highly colored berries or truits with the wine; or they may be some of the numerous varieties of aniline dyes obtained from coal tar. A few examples of the vegetable dyes said to be used may be mentioned as follows: Logwood, cochincal, elderberries, whortleberries, red cabbage, beet-root, mallow, indigo, etc.

Very claborate and extensive schemes for the detection of these coloring matters have been devised, and chemical literature is full of articles written upon the subject, yet the positive identification of any of the vegetable coloring matters used is only very exceptionally carried out. Most of these schemes are based upon the difference in the color of the precipitates given with various reagents, and the coloring matters of the grape resemble so very closely in their behavior others of vegetable origin, and the variations in the amount of tannia present has so great an influence upon the character of the precipitate, that definite conclusions are well nigh impossible.

The Berlin Commission rejects all methods for the detection of vegetable coloring matters as not being capable of yielding positive proof, and gives only methods for the detection of coal tar colors. The Paris Laboratory, on the other hand, gives a very elaborate scheme for the detection of both vegetable and aniline colors, designed to cover all snbstances likely to be used for such purposes. This scheme is based chiefly npon Gautier's and the French authorities claim that with it a chemist who is expert by long experience can detect the coloration of a wine by either vegetable or mineral foreign matters, though he may not be able in all cases to identify the particular coloring matter used. These schemes can only be referred to here, as I consider that their value is not sufficient to justify their reproduction.

The detection of aniline coloring matters can be made with tolerable certainty. The following method is essentially that given by the German Commission, and originally devised, I believe, by Konig: 'Two samples of 100cc. each of wine are taken, and shaken up with about 30cc. of ether, after one has been rendered alkaline by the addition of 5cc, of ammonia. After separation has taken place, about 20cc. of the clear etherial solution from each test are poured off (not filtered) and evaporated spontaneously in porcelaio dishes in which are placed threads of pure white wool, about 5cm. in length. With wines which are free from aniline colors, the wool, with the residue of ammoniacal solution remains of a perfectly white color, and the thread in the solution which was not treated with ammonia will be of a brownish color. The presence of fuchsine is readily detected, however; for out of a perfectly colorless ammoniccal ether solution a bright red will appear as it evaporates, and becomes fixed

taken up by ether from acid solutions than from alkaline will be detected by the red coloring of the wool is the other from the sample which received no addition of ammonia. The coloring matter may also be extracted by means of amyl alcohol, which will be discharged from the solvent by ammonia if the aniling dycused be of an acid nature, in which case the amyl alcohol will dissolve little coloring matter from the wine in the presence of ammonia.

The diseases of wine may be considered in the light of adulteration, as it is a fraud to offer wines for the sale as pure wines which have under gone a change which alters their composition and renders them unfit for use. The researches of Pasteur on fermentations has shown that nearly all of the diseases of wine are due to the development in them of microscopical vegetable growths, whose germs are carried in the air. Each disease has its own special organism peculiar to itself, which may be detected by a microscope. These different organisms produce the souring, molding, bittering, cloudiness, blackening, etc., of wine. The best wines are said to be the most subject to these alterations; every year large quantities of the finest wines of Burgundy are spoiled by the disease called bittering (l'amer).

In the wines that have become entirely unfit for use through the development of one of the diseases the fact is rendered sufficiently evident by the senses, especially to an expert taster. To detect the first beginning of such alteration, however, is more readily done by means of the microscope in the hands of an expert.

#### HOW TO DRINK WINE?

The Santa Clara Valley publishes the following interesting article from the pen of an Eastern contributor:

Few enstoms of other nations differ more from ours than those in the manner of taking wine, and, in a less degree, those of eating and drinking generally.

Accustomed as we were to see the Yankee bolt his drinks and even his food, something like a "piker," it was, later in life, as the Germans began to multiply among ns, a surprise to learn how much enjoyment they extracted from their frugal mug of beer sipped slowly and spiced with cheerful conversation.

Extending our observation to other people, we notice that the Englishman delights in quantity, although it is taken in less haste than by the American.

The difference in the climate doubtless has much to do in shaping the peculiarities of nations. When we come to study the habita of the Latin races, notably the Freuch, we Yankees begin to ask ourselves some questions.

They have cultivated their tastes for centuries, and hence we are not surprised to find those tastes often exquisite in delicacy; and that their customs have been greatly modified by that refinement.

On account of the favorableness of their climate, the people in Southern Europe live much in the open air-as you Culifornians are enabled to do-where they, in a social way, sip their beverages without "treating," and beside the little nothings that are talked at American "teas," discuss topics pertaining to politics, art and literature.

Perhaps an example will best illustrate

About two hours before the time of taking upon the woolen thread. Those varieties the solid meal of the day, two young Paris-

ians went to a café and gave their orders. The menu was to consist of a few courses only-soup, fish, game, meats, dessert, wine and black coffee. During the interim they strolled into the garden of the Tuileries, and whetted their appetites by discoursing about table delicacies. When the appointed time had arrived, they were in a condition to enjoy what they had been in preparation

After they had deliberately seated themselves, each bowed and pledged the other in about a teaspoonful of Sauterne, holding it apparently in the mouth for a few seconds, and swellowing it drop by drop so as to reap the full benefit of the delicions draught.

Now that is the way to take wive. Try it. Roll a thimble full of the finest brands of your California Muscatel or Zinfaudel slowly back to the palate and hold it there a moment, so that the aroma [may ascend into the olfactories; let a few secred drop: trickle down the throat, and inhale the vapor, as a sweet incense to a refined taste-It will tingle in every fiher, and make you at peace with all the world. Try it, and know of a truth that a teaspoouful taken in this way gives more real satisfaction than ; glassful taken as a "wash-down," You will learn furthermore, that sensible winedrinking will never end in a debauch.

But of that dinner. They ate almost as deliberately as they drank, never swallowing a morsel apparently so long as it ministered to gustatory pleasure; and so far as an observer could note, no topics were discussed which might divert the mind from full participation in that pleasure. They did not eat much but they ate well-they drank little but they drank well.

That dinner, as all dinners should be, was an event of the day, and when they arose from the table they had dined in the highest sense of that term.

Now, while the Yankee looking on, deapised the useless lives that those young Parisians apparently led, that object lesson was invaluable to him, and he writes of it here as a hint to those who would know how to get the most out of a dinner.

Undepraved tastes were given for gratifimerry," with due moderation.

The Greeks and Romans diluted their wines, stirring in from one third to one half the quantity of water before serving,

For several persons at one table this was performed in a crater, a dish something like a punch howl, and the rim was often edged with a chaplet of leurel; and in the south of Europe, the people, both native and foreign, now dilute their wines, the ladies generally using more water than wine.

Wine-drinking is an old custom dating from the time of Noah, and emigrants from the East carried the vine with them into all the countries of their adoption.

About 600 B. C., a colony of Ionians from Asia Minor settled at Marseilles in the south of France, and taught the Gouls vine dressing; and now you Californians are contending with the world for the palm, and comparing the vine growing districts and their products in the Old World, with those of the Eureka State, I believe you are to win

The "coming man" is destined to drink wine-a small quantity only and that at his meals-and the country that shall produce it pure, and preserve its grome born only of a genial soil, of warm breezes, of sunshine and showers, will be his purveyor.

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#### PLANT THE OLIVE

Those who are yet in doubt, says the San Jose Herald, as to the kind of trees toplant, or who have been unable to obtain just the variety they want, could do no better than to plant olives. The tree flourishes. with very little care, and will live and: bear abundantly for centuries. It is always. in full foliage, and is one of the handsomeest and brightest trees that can be cultivated. And it will grow almost anywhere, though the best results would probably be obtained from this deep, rich, loose soil on the western side of the valley. Then, too, the market for pure clive oil is rapidly ex tending, and the production has never yet been equal to the demand. Of late years, cottou-seed, peanut and lard oil have been extensively used either to adulterate olive oil, or as a substitute for it altogether. This shows that the market is not half supplied, and if pure olive oil could be fursished in abundance there can be no doubt that it would generally take the place of ard, and butter, especially for culinary ourposes. And for building up waste tissaes, and preventing or curiog various. liseases, it is far better than cod liver oil, or any of the nanseons substances that tre now prescribed by physicians. Theres, therefore, not merely the present denand to be supplied, but one that will rapidly increase as the good qualities of he article become better known. By all means then let us plant olivea. Fill up the waste places with them. Plant them as ornaments in the corners of lots, elong the roadsides, and in every place that a tree can grow. In a few years they will bear abundantly, and yield a handsome profit, besides being an ornament to the premises and to the whole valley.

#### A DESTRUCTIVE FUNGUS.

Prof. Prentiss told the Western New York Horticultural Society recently that the black knot on plnm trees, it is now well established, is caused by a fungus, the native habitat of which seems to be some of our wild cherry trees. It is not known across the Atlantic. If a recently cation. Let us then "eat, drink and be infected branch is examined in May or June with a small magnifying glass, the filaments can be seen. These are threads which bear spores, and the latter full off, and perhaps produce black knot elsewhere. After a while the black crust forms, the filaments are growing and enlarging, until they appear to be one whole body. gated sacks grow into the inside, and these contain another form of spores, which continue to develop and ripen during winter, and ere mature perhaps in middle of January. They fall out through an opening of the crust, and when they lodge in a favorable position, will germinate and produce new knots. Part of the structure grows within the branch, even nuder the bark, and kills it. Whenever and wherever the disease appears, the infected parts should at once be cut off and burned. Look out for infected wild cherries in the vicinity. There is hardly any danger from infection by the use of knife, as the disease is not in the juice. No remedy is known, except the knife. Always cut at least two or three inches below the diseased portion, or a new knot may form below the old one without sporea.

> THE LATE SALE of 60,000 gallons of wine at 34 cents per gallon was made by Major J. H. Drummond of Glen Ellen. The firm of Arpad Haraszthy & Co. was the purchaser

#### TREATMENT OF THE VINE DURING VEGETATION

Viticulture has kept fully up step for step with the universal progress of this latter day civilization, however among the new ideas which have resulted from the experience of years, a glance back at the theoretical basis on which many of them are grounded, may be refreshing. At this season of the year the enreful grower devotes his special attention to the treatment of the vine during vegetation. This subject is given considerable space by Thudichum and Dupre, in their exhaustive treatise on wine.

Here it is said: The general rule for the conduct of the vineyard during this period must be not to suffer any useless vegetation on the soil of the rineyard, and not to allow any excessive growth on the vine itself. The absolute cleauness of the soil from the first period of vegetation to the end of it, as regards either weeds or subsidiary crops, is one of the first conditions of the success of the vine. In this respect, as well as in others, small viticulturists frequently commit the greatest faults. They plant or allow subsidiary growths between the vines, and thereby destroy more of the quality of their wine than they gain by these products. The soil of the vineyard must be weeded by the hand. and for that purpose the weeders should be supplied with a small fork by which they can loosen an inch or two of the soil to extract the roots of the weeds. If there are no weeds, the mere digging up of the laud in a superficial manner is sometimes advauttageous to admit air and warmth, especially after many rains have rather beaten down the soil. The stirring of the surface must be avoided during the time of drought, as itt would then increase the evaporation and possibly injure the vine. In countries, however, with a wet subsoil, the frequent and even deep stirring of the top soil is most beneficial. Thus, in the Palus of the Gironde, all the weeding can be done by the plough, while in the upper Douro it has to be cautiously done with the mattack, and at Rudesheim with the hand and a small fork. In parts where the soil dries out, anch as steep slopes, it is, on the contrary, advantageous to maintain the moisture of the soil by compressing it, laying slabs of stone upon it, and keeping all the paths covered by turf. The necessity of removing useless branches from the vine is absolute, inasmuch as their presence preveuts the sun from striking the soil and the useful parts of the vine. They keep up a coolness and moisture, and thereby retard the general progress of the plant. How weeds and useleas branches may combine to destroy the fluest elimatic advantages we have fully described in connection with the vineyards of Croatia. The French have pleuty of similar vineyards, among them those of the Tournine, where old and venerable vines are covered by a luxuriant growth of branches which fall in heavy bushes to the ground, and where the adhesion of the rods to each other by means of tendrils makes the vineyards impenetrable thickets. The time for all these operations must of course be selected. Werding ought not to be done when the ground is wet, so as to hang to the instruments and the feet, nor when the soil'is too dry, so that the weeds are torn off rather than drawn out together with their roots. After abundant rains the vineyard the workmen are re-admitted to it; for when earth adheres to the feet and tools it in such a manner that the new rods can is thereby made in many cases—particularly easily fix themselves to it and rise by it.

in chalky soils-so hard that the after vegetation is impaired. During frost. whether strong or feeble, the vineyard ought not to be dug round, or treated with the mattock, or hoed. In spring, as long as there is hoar frost in the morning, no cultivation of the soil ought to be undertaken even for some hours after the frost has been melted by the sun. If the earth of a vinevard be interferred with at the improper time, so much cold may be admitted into the pores of the earth that the vines may become subject to spring frosts, which would not have happened if they had had their proper protection in the earth. In a similar manner the earth must not be opened while there is snow or hail, or while there are fogs which deposit ice. All these proceedings, if taken at the improper time, would have a lasting injurious action upon the vine. In respect to all the operations performed on the vine in the vinevard, the iticulturist must select, as every good gardener must, his proper day and hour. The pinching of fruit-branches and laterals should be done at the time when the sun is not too burning-therefore under a covered sky, and if possible at a time when rain is approaching, so that the sudden deprivation of many leaves may not leave the plant io a somewhat defenceless and sometimes drooping state.

SUPPORT AND PROTECTION OF THE VINE.

The rods of the vine require a support. Without this they would mostly lie ou the ground, forming an impenetrable thicket, and their fruit would be contaminated by the mad. Moreover, they would very frequently break off, and the loss of organs thus eugendered would seriously interfere with the progress of the vine. All careful viticulturists, therefore, fix their viues to stakes, the one-year wood immediately after the cutting, and the fresh growth as soon as it has attained proportious fit for the of eratiou. In most parts of France and Germany, each vine is fixed to a single stake. This accurs to be the most faulty method of all, for here all the branches at a certain height above the ground are tied together into one thick mass, into which neither air nor light can penetrate, and which is there fore, physiologically spenking, dead. In other parts-for example at Chablis and Wurzburg-a single vine is mostly provided with from three to five stakes, to each of which a branch of the vine is tied. We shall relate how at Wurzburg the four stakes were at one time standing irregularly, and were afterwards put into line. In Chablia and on the Upper Moselle the line has, however, not yet been established. According to the method proposed by Gayot, ten thousand vines are planted on the hectare, and these receive 20,000 stakes. Of these ten thousand are short stakes, of half a metre to 3-5 of a metre in length. They are sunk into the earth from 15 to 25 ceutimetres in a line with the vines, and at a distance of one metre from each other. This small stake, which is called in the Médoe carasson, serves to attach the fruitorsuch at a distance of 10 or 12 centimetrea from the soil, and to carry somewhat higher than the fruit-brauch, at a place which is about 30 or 35 ceutimetres from the soil, either a lath of wood, or a galvauixed iron wire twined around a groove cut in the upper end. This lath, or iron wire, serves for fixing the pinched frait-branches to it. The 10,000 long stakes are from must always be allowed to dry first before 1 2 10 to 1 3 10 of a metre in length. They are inserted close to the trunk of the vine,

This mode of applying stakes to vines is much more economical than that which is used in the Bourgogne and the Champagne. It only requires 300 hottes of stakes for the hectare, while the other methods require 600 bottes; but it also requires 10,500 metres of iron wire, No. 14 gange. This weighs, with the necessary surplus for attaching in the soil, 600 kilos at 10 centimes a kilo, whereby the expense of stakes and wires comes to 300 francs per hectare. Of course those who practise what is called ordinary cultivation, that is, cultivation such as is usual in their districts without reference to particular theories or scientific principles, will be likely to adhere to old practices; but those who will be capable and willing to comprehend all the advantages connected with these new systems of treatment will readily be able to calculate their profits in money.

NECESSITY OF PROTECTING THE VINE AGAINST EARLY EROSTS, SPRING BAINS, AND WAIL,

Guyot was the first to apply on a large scale measures for the preservation of the vine in open vineyards. He proved incontestably their efficacy, and was rewarded by great success; but he clearly saw and foretold that it would require the utmost courage and the utmost intelligence on the part of viticulturists to assent to carry out so large a proposition. To protect the vines of a single acre of land, it is necessary to spread over them a leugth of 10 kilometres of straw matting. The mere proposition may appear chimerical to viticulturists; but it has long gone out of the range of propositious, and become a matter of established practice. The worst accidents of the viue in all countries are spring frosts, which destroy the fructiferous shoots; secondly, the persevering and cold rains of June, which prevent the fecundation of the flowers and make the bunches fall off; thirdly, the autumn frosts, which cause the leaves to fall, or to die and get brown, and prevent the ultimate perfection of the grape; and, last, the rains of autumo, which cause the fruit to get rotten. Hail is not so common an accident as those we have above mentioned, and has at least one advantage, namely, that it can be insured against, while uo one would think of giving a policy of insurance for any of the other accidents No expenditure will effect the purpose here indicated which does not rise up to at least 500 francs per hectare, for an insufficient protection which would allow of accident in any one year would not repay the expenses but if the expenditure here indicated be made, and a vineyard yields on an average 30 bectolitres of wine to the hectare, then the means of protection above indicated will certainly raise the quantity of wine to 60 hectolitres. The effect of the protection is an increase of 30 hectol.tres of wine, and it is therefore uccessary that these 30 bectolitres shall under all circumstances possess a value of more than 500 francs. However, the application of this method is not advised in places where the average value of the hectolitre of wine is only 30 francs or loss The method also presupposes that the vine yard be planted with fine vines, and that these vines be planted in lines, on low trouks, and with small and large stakes The protection is afforded by straw mats, These straw mats have a width of 40 ceutimetres, and are tied by imputrescrible twine, or with thin the xible ir in wire. They on the 1st of April, and not taken away until the 1st of November, or later if the maturity of the grape should not be comcan be rolled like canvas. They are put on

plete. The vine which has been trained as described above, after the principles cunucinted by Guyot, is lacked by a small wall of earth thrown up behind it. The long stake is put about 20 centimetres in front of the trunk of the vine, and a third piece of wood is stuck into the little earth-wall and fixed against the main stake so as to rise against it in an angle of from 30° to 40°. This small piece of wood serves as the rafter for carrying the straw mat. As the stakes stand at a distance of one metre, the straw muts are supported at these distances by the wood mentioned; and in order that they shall not be subject to being lifted off by the wind, they are tied at each main stake by means of a little bit of iron wire. It is necessary to expose the vine underneath these straw mats towards the east and south, very little only towards the west, not at all towards the north. The protection towards the north most be absolute-that against the west nearly absolute; for it is from these directions that the most dangerous cuemies of the viue--the rains and the cold winds-approach. The protection from frost is given by shutting out the sky overhead and preventing radiation towards it. The vine now begins to grow vigorously. In its protected wooks the warmth is eaught, and it springs out exuberantly.

### SENSIBLE ADVICE.

The International Company that is working up the immigration to Baja California have had their plans checked through varions causes, but they still keep to work, though with indifferent success. Their latest scheme is the report that the mountains are full of gold, that is to be picked up with as much facility as in the early days of California history in '19. Thero may be gold there, but to those going to get it the Pasadena Union gives the following good advice:

1. Stay at home.

2. If you are determined to go don't go unless you have ample means to go to San Diego, and there to purchase a complete ontfit. A team and wagon, mining tools and provisious enough to take you there and back again; also plenty of bedding.

3. Don't expect to get rich in a day, nor two days-don't expect to get rich at all, and you won't be disappointed.

4. Recollect there is little or no water in that country and you had better take some along. You can't work a placer mine to profit without water,

5. The population of a mining town is always made up at first of a hard lot of citizeus, and a man's life and money, if h has any, are not too safe.

6. San Quintiu is not in the United States and you may anticipate trouble with the government, particularly if you "strike

The mines are distant from San Diego by wagon road about 250 mil s. It will take at least twelve days to make the trip from San Diego, and you will be oblig d to make long drives to get water. The prespect is not encouraging to one who will look it fairly in the face.

Many go to San Quintin by boat and go from there into the min s on fout.

Provisions, freight and everything else is high in that country. The mines are some sixty miles distant from the coast, and walking in that country is not good at any

#### VINE GROWERS ASSOCIATION OF SOUTH AUSTRALIA

The first annual meeting of this Association was held at Adelaide on March 2d. After discussing the very favorable condition of the industry in the Colonies, and the marked improvement in the estimation in which the local product was held, Mr. Thomas Hardy, so well known to our California vineyardists and wine-makers, made the following address in which he sketched the growth of the industry in the Colonies. Mr. Hardy said, it was nearly twenty years ago since he started a similar Society among the vine growers, which was named "Vignerons' Club," and consisted of about twenty members, comprising nearly all the leading vine growers of that time. The first President was the late Mr. John Reynell, who was the father of wine growing in this colony, he having been the first man to introduce wine-grapes and cultivate them for wine making at his vineyard at Reyuella. That Society was in existence for about ten years when it died for want of more active support. He trusted the Society now formed would be better supported, and thought the founders of it had done wisely in making the annual subscription almost nominal. If the Society was to do any good politically it should have a large roll of members, and he hoped to see all the vine growers of the colony and their sous and head cellarmen join it, so that all interested might have an opportunity at the quarterly meetings to discuss any matter for the forwarding of the wine industry. There was no lack of subjects which might be profitably brought before the members for their consideration. Politically the Society might have many things to discuss and act upon, foremost and most important being the free enterchange of the products of the soil among all the colonies of Australia. That would very greatly benefit the wine and fruitgrowing industry of this colony by opening up markets near by for our wines, dried and canned fruits, jams etc. At the last general election of members for the Legislature this important matter was scarcely adverted to, at the same time the use of the totalizator was made one of the test questions put to the candidates at almost every meeting of the electors. The Society ought to be able to bring such questions as that or any other prominently before the country at the proper time. There were several other matters requiring immediate attention, among them being the necessity of doing something effective to abate the destruction of fruit by the sparrows, which at present bid fair to put an end to grape growing altogether. Action should also be taken to induce the vine growers of New South Wales to insist that the vineyards infected by phylloxera at Camden should be immediately uprooted. The persistent neglect of that by the Government of New South Wales was fraught with the utmost danger to all the vine growers in Australia. The aid which might be given by our Government to vine growing by the introduction of skilled vignerons from Europe might well be considered. Practically there was no end to the various topics which might he brought before this Society. One of the greatest charms in vine growing and wine making lay in the fact that there was always something to learn, and although he had been a vine grower since 1853, he was still a learner, and had always some experiments in hand and notions to prove or disprove.

Among the most important topics for wine as there was in the world.

future consideration and discussion was the adaptibility of different soils and climates to various kinds of vines, and to the style of wine desired. There was still much to learn on the subject, and a great deal might be gathered from the experience of this and the other vine growing colonies. Then the study of wines suited to the English and other markets, and where and how they were to be produced in large quantities was a most important one at the present time. The best methods of fermentation, the effect of long and short fermentation of red wines, the kind of buildings best saited to ensure regular temperature during wine making, the kinds of timber snitable for vats and casks, the preparation of casks for the shipment of wine, the size of casks best suited for shipment of Anstralian wines, the pruning and cultivation of the vine, the effect of keeping vineyards well worked in the quality of the wine, the effect of wide planting on the production of perfect grapes, the manuring of old vineyards, and many more equally important matters would occur to the thoughtful and earnest vigneron and the discussion of them should give a perpetual interest to the proceedings of the Society. Kindred Societies in the other colonies and California would doubtless be only too glad to reciprocate by the interchange of records of their proceedings, and the Society might obtain the best periodicals relating to the wine industry from other countries, thus enlarging the sphere of knowledge of its means at a small cost. He was sure that the best thing the Society could do was to endeavor to give to the young men engaged in viticulture a lively and intelligent interest in what they were doing. By that means the character of our produce would be raised year by year, and at no distant date South Australia would be able to produce wines equal to those from many of the oldest wine countries of the world, and in quantity to meet alt demands.

Mr. W. F. Snow said he had had eleven years of practical and expert experience. After some time spent in his father's counting-house in order to get an insight into English business and English tastes he went to Bordeaux, and was sixteen months with one of the cleverest bleuders and best known men in that beautiful city. There he went through the mill, and learned his business from the beginning, from sulphuring a cask to prououncing on a Chateau Lafite of 1864. He first tasted the Australian wines in 1882 at the Wine Exhibition in Bordeaux, but tasted them very carelessly, never dreaming that they would come to the front in the way that they had done since; but he remembered being!struck with their intrinsic worth, although faultily made. Since then his people had had occasional enquiries for Australian wines, and attention in England was gradually drawn to them. The Colonial and Indian Exhibition was more or less a revelation, and he was by no means the only English wine merchant who saw a great future before these wines of the Southern Hemisphere. He tasted them then very carefully with some Freuch friends, and came to the conclusion that there was good business in it. They were, himself and his friends thought, for the most part very imperfect wines and many faults about them. Still there were elements in them most valuable -elements muchly prized by wine treaters —and in his humble opinion with time and patience Australia would produce as fine

with Australia were eminently unsatisfactory, and very few people knew anything about it. It appeared to have got into bad hands, and to be very much monopolized. There were many things he could not understand. For instance, on very nearly every railway station in England was an exceedingly artistic advertisement of Highercombe Australiau wine. Diligent search was made for information about this grand cru d' Australie, particularly as it was found that a great deal of the wine was being sold. He fancied from the amount that it must be a big vineyard a la Califoruia, of 500 acres, and those present might judge of his surprise when he found that it was only between 20 and 30 acres. And one gentleman was unkind anough to assert stoutly that the merchaut who was doing such a roaring trade in Highercombe had not had a drop of it for seven years. Other stories he heard about bad casks, unsatisfactory consignments, etc. And the long and short of it was that he determined, being a younger sun, to come out here and see for himself what business could be done, believing that he should do welt here. He had no reasun to regret that determination. From what he had seen, noticed, and tasted in this province and at the late Exhibition from other colonies, he had made up his mind to go into the colonial wine trade either in South Australia, Victoria, or New South Wales, wherever he could get the best and most advantageous terms. The production of claret, he thought, was the most important study for South Australia, whose clarets contained too much alcohol and too much body, and also were characterized by a certain amount of harshness which should not exist. The choice of wines was the first subject which required attention. In Sonth Australia vinegrowers ought to produce a light claret of a standard which was nearly approached by some of the wines which came from Victoria, and were shown at the Exhibition, because it as in Victoria. The effect of the happy-golucky fermentation had been noticed in the hibited in London. Of course that was a matter which required attention. It was possible to regulate fermentation by machinery. If a good claret was placed before the public at home it would compete successfully with the wines of other conutries.

His enquiries regarding the shipping trade

There was a spleudid opening here for port, but if grape spirit were used a much better wine would be produced. The very best grape spirit ought to be grown, and he had no doubt that an excellent brandy could be produced in the colony. Our sherries were the worst of the wines, but the defects could be overcome. The Rieslings were the most perfect wines as a rule. There were, indeed, most beautiful, and some of the fancy wines, such as Froutignacs, Muscats, and Alicants, were the best he had ever tasted, and ought to sell well in Austria. The wine industry appeared to him to be treated badly by the authorities, and large snms of money had been lost in consequence of the want of knowledge. A practical instructor ought to have been brought out from France, and at the present time the services of such a person would be extremely valuable to the whole colony. He would suggest that something of the kind might be adopted in connection with the Agricultural College. Respecting casks the South Australian clarets often

showed signs of their badness. The wood which was found to be most suitable was Baltic oak. If a model vineyard were established by the Government the benefits would be very great, and phylloxera-proof vines could be planted, in which the greatest interest should be taken.

#### FLAFTERING VITICULTURAL PROSPECTS.

The San Jose Herald, commenting on the viticultural prospects in Sauta Clara county says, that the promise for a magnificent grape crop on the western side of the valley, never was better. The vines are all starting well, and the earlier varieties are already literally crowded with clusters. And all through that section preparations are being made to take care of the crop on a scale never before attempted. The owners of the larger wineries will greatly increase their facilities, and the owners of the smaller vineyards are preparing to build wineries of their own. J. B. J. Portal is already ordering increased cooperage and new machinery, and extending the limits of his magnificent winery and distillery. J. P. Pierce & Son of Santa Clara, are also greatly extending their buildings and other facilities; so is Captain Merithew, D. M. Delmas and others. Among the smaller vignerons, Mr. Sutherland and Mr. Wright will both build new wineries this senson and take care of their own grapes, and several others in the neighborhood will do the same. Ample preparations will therefore be made to take care of a large crop, and the vignerons will be more independent this year than ever before. This, of itself, will help to raise the price of grapes, and give increased confidence to all engaged in the business. The prices of wine, taken all together, have been very satisfactory this season, but only those who made their own wine have been much benefited by the advance. The price of grapes was very low last season, and those who purchased large quantities made almost a fortune, but this year most of the growers could be made in this colony just as well intend to have their share of the profits of the industry, and are taking measures to that end. This will have a double effect. wines from Australia which had been ex- It will take a large quantity of grapes out of the market, and it will enable wina makers to hold their wines for satisfactory prices. Last year the wineries were all filled to overflowing, and wine makera, many of them, were compelled to aell at almost any price to relieve their overcrowded cellars; but this year ample room will be provided for even the large crop that is expected, and the vignerons will be able to hold their wine until reasonable prices can be obtained.

#### Home Made Fertilizer.

The Horticultural Times gives the following method of making a fertilizer for pot plants:

From a blacksmith's shop I obtain the clippings of the borses' boofs, and as they sweep the floor, some of the cual-dust and the steel or iron cinders and filings also. I fill a bail about one-fourth full of this aubstance and then add boiling soft water enough to make the pail full. Once a week, then, I give the plants a thorough bath, usually setting the pots for a while in the liquid. I have found this treatment most excellent; it seems to furnish a complete food, for the plants at all seasons have the freshness and greenness of June, and are remarkably prolific in flowering.

Subscribe for the MERCHANT.

#### THE OLIVE IN AUSTRALIA.

The following is the botanical description of the several varieties of olive trees now planted at the Experimental Farm, Dookie, Victoria:

Olea Europea rubra. Bern 2 105. Duhamel 77:21. Colombala pallida.

The Red Caillet is large, a little roundish, with long brittle branches, drooping a little. Its leaves are green, close banded towards the top. Its bads bloom easily, and bears roundish-oval, tleshy fruit, with a short pedicel, of a dark red, upon a green ish-white ground, which it keeps nutil ripe, which happens in April. Its oil is very good. Length, 0.787 inch; breadth, 0.550 inch (approximate).

Olea Europea papillata.-Olive tree with top-knot.

This tree is of medium size, with straight branches. Its leaves are short, broad, far apart, oblong-oval, roundish at the end, or tapering to a short little point, being dark green above and whitish underneath, o about 2.340 inch in length, and 0.747 incl. in breadth, having strong petioles. blossoms are unmerous, yearly. Its fruitmiddling, smooth, roundish-oval, of s heautiful black, ending with a small top knot. They are strongly adhesive to the pedicels, which are long. Very little pulpy: the stone pretty large. Its oil is sweet. Length 0:585 inch; breadth 0:354 inch (approximate).

Olea Europea laurifolia .- Olive with leaves like laurel leaves. The straight and quadrangular branches of this tree distinguish it as much from others as its large and broad leaves, which are oval-lanceolar, sharp, of a dark green above, about 3 543 inch in length and 1:377 inch in breadth. having strong petioles; it blossoms in small bunches; its fruit is pretty large, roundish-oval, pulpy, ending with a short blant point; the skin is hard, dark; the the oil sweet, pretty abundant; the stone oblong, obtuse, of a medium size. Length 0 945 inch; breadth, 0:550 inch (approxi mnte).

Olea Europen oblonga (N).-Olive tree with oblong fruit.

This variety differs from Olea Celina, because its fruits ripens later; its branches droop a little; its sharp elliptical leaves, of a dark green above and a greenish white underneath, are of 2 459 inch in length and 0 519 iuch in breadth. Its blossoms have long pedicles; its fruit is oblung, roundish, ending with a small point of a dark violet, placed alternatively in odd numbers at the top; it is very adhesive to its pedicel; its pulp is thin, its oil limpid; the stone large, oblong, pointed. Length, 0:589 inch: breadth, 0.315 inch (approximate),

Olea Europea conditiva. - Olive tree with frait for picking.

This tree differs from the Spanish sorts by its thick foliage, its branches drooping a good deal. Its leaves are very large, very long, of a dark green, strong, closebanded, often curved, being as much as 4.724 in length and 0.180 inch in breadth. Its blossoms are often sterile, the fruit is large, oval, clong sted, fishy, of a beautiful black, often deformed by insects; leaving its pedicel easily; the pulp thick and tender, containing a sweetish oil depositing a good deal of fecula. Length, 0 954 iuch; breadth, 0-590 inch (approximate).

Olea Europea regalis .- Royal Olive tree The Royal Olive tree hears nearly every year. Its fruit, which is pickled with chlorate of soda, is often attacked by some stomaxe kairoun; the tree is large, has

numerous branches, drooping with mid- dark green with short petioles. Its blos dling size leaves, narrow pointed, of a slight dark green, pretty for apart, being breadth. Its blossoms have short pedicels; its fruits large, generally single, roundishoval, often nneven surface, ending with a small obtus- knot of a whitish color, then of a deep red, g tting deep black only when ripe; the skin firm, plenty of flesh, which is bitter, soft, full of greasy oil inferior in quality to that of the proceeding varieties, Longth, 0.91t inch; breadth, 0.669 inch (approximate).

Oles Europea uvaria (N). Banchy olive

This tree grows very large and tall. Its branches are drooping laterally and grow all outside, so that the inside is nearly empty Its leaves are pretty large, pointed of a beautiful green; the buds very small grow always in bunches, only on two year old branches, and blossom very late. fruit, gathered in shape of a bunch of grapes, and has a long peduncle. The dives are large, oblong-oval, passing from green to purple-red and to jet black. They contain a bitter pulp, which produces a very good oil. Length, 0.866 inch; breadth, 0.590 inch (opproximate).

Olea polymorpha (N) .- Weeping Olive

Of all the olive trees this variety is generally the most cultivated by us. The tree attains 32 feet in height. Its long branches, with thick fuliage drooping, distinguish it as much as its leaves, and its Irnit is oblong, of a beautiful violet black, full of an excellent cil, which keeps longer than the grentest part of other oils. Its crops. though alternate, are sometimes of an extraordinary abundance. Length, 0.787, breadth, 0.550 inch (approximate).

Olea Europea nigerrima. - Olive tree with black fruit.

This tree fears neither the cold of our atmosphere, nor its fruit, the noxious insects. Its trunk is pretty tall, very smooth, ash color, with straight branches, for apart. Its leaves are narrow, sharp, small, It blossoms only after the other varieties, and the fruit is middling, oblong, becomes blackish very early, and very deep black when ripe. Its pulp is very black, very bitter, makes very fine oil, which keeps a long time. In spite of this, this variety is very little cultivated. Length, 0:708 inch; breadth, 0.393 inch (approximate).

Olen Europen atro-violacea. - Reddish Caillet Olive tree

This olive tree presents difference enough to be separated from the other varieties. The tree is pretty large, with long branches drooping a little. Its leaves are small, ellipitical, sharp far apart, very strong, of a pale green, being 1:180 inch in length and 0.472 inch in breadth. Its blossoms are numerous, on long peduncles, generally fertile. Its fruit is middling, oval-roundish, obtuse at the top, of a violet black, the skin pretty hard, the pulp very little fleshy, full of pretty good oil. The stone is large, oblong, often sharp, Length. 0 629 inch, breadth, 0 355 inch (approximate).

Olea Enrop a buxifolia .- Olive tree with box leaves.

It is among the most sterile rocks that this variety grows the most luxuriantly. Its trunk is often used for grafting. Its crop is nil. The tree is always small, shrivelled, with short branchea confuse diverging, pliable. Its leaves are roundish oval, very small, ending in a point of a

soms are small, scanty; the fruit roundish, of a shiny deep black; the puip is pretty 3 346 inch in length and 0 472 inch in thick, the stone ovally pointed and the oil d-licate. Length, 0.394 inch; breadth, 0.315 inch (approximate).

There is on the most sterile high lands of our littoral Nice au under variety of wild olive tree with a tortuous trunk, short branches, straight, ending in a point at the top, forming always a kind of hedge, with narrow, oval, oblong leaves of a pale green. whose fruit is exceedingly rare, small, oval and black. I believe it to be indigenous to our regions.

#### WINE IN FRANCE.

From La Vigne Française, a fortnightly magazine published in Paris, devoted to the viticultural interests of France, gather some facts which will be of interest to California wine-growers, as showing the possibility at no very distant day of this State's coming into active competition with France in the much-talked-of markets of the world.

A meeting of the viticultural section of the Agricultural Society of France was recently held in Paris, and, among other things, resolved with almost entire nuanimity against the renewal of the commercial treaty with Italy, basing its action upon the protectionist, tendency which is becoming more marked in every country of Europe; and the article from which we quote proceeds to say: "There is perfect unanimity in the agricultural world of France to no longer agree that agriculture, the universal sacrifice, shall continue to pay the ransom of industry in commercial conventions. Under the new economic condition of affairs, we hope that agriculture will have more to gain than to lose." The reason for this unanimity of sentiment regarding the treaty with Italy is found in the fact that the price of wine in Sicily and other parts of Italy has fallen from 25 or 22 francs per hectoliter to 7 and even 5 francs per hectoliter, or, by the American standard, from 221; or 20 cents a gallon to 61, or 11; cents per gallon, and the French viticulturists will not consent that they shall be met on their own ground with this cheap Italian wine.

As to the decrease of wine in France it was asserted at the meeting referred to that the wine-bearing area of France has diminished 1,093,627 hectares, the hectare being equivalent to 2,471 acres. With this loss of area as a basis, the article referred to computes that the annual loss to the viticultural interests of France is 656,000,000 francs, or \$131,200,000.

A strong argument from protection is found in the statement made in the magazine referred to, that the increase of the import duty on wine has enhanced the price of French wine and has correspondingly lowered the price of Italian wine, which has heretofore found a market in France. It is obvious that the French believe in legislating for France, not for Italy, and that the price of the home product is, in their minds, for more important than the price of the foreign product. Still, it will be a hard matter for France to repair the ravages caused by the phylloxera, and to restore her vine-growing and wine-producing area. It is to her misfortune that particular, that the future of California wine will owe its prosperity; and while we regret that France must suffer, our grief is tempered somewhat by the thought of our

#### PRENCH VINEYARDS

According to a report transmitted to the State D. partment by Frank Muson, United States Consul at Marseilles, France, the area of vineyards that will be planted to American phylloxers-resisting vines in that conotry this year will not fall far short of 375,000 seres. At this rate of substitution. he says, the complete restoration of the vineyard of France is a question of only a few years. Mr. Mason states that, in his opinion, the vintage of 1885, so far as this restoration has already gone, will reach that of the aute phytloxera period preceding the Franco-German War. Evidently Mr. Mason has not lately consulted the statistics of viticulture in the country to which he accredited, or he imagines that the moment a phylloxera proof vine is planted it commences to produce grapes. instead of going through a process of growth and grafting which consumes years. According to the figures prepared by the French Commissioners of Indirect Texas. and reproduced in the Bulletin recently from the Moniteur Vinscole, the vineyard area and wine production of that country have steadily declined since 1875, the year of the greatest production. In that year the acreage was 5,550,000, and the production 1,820,000,000 gallons. Last year the acreage was 4,860,375, and the yield 546,797,000 gallons. In twelve years the area of the French vineyards has fallen off nearly a million acres, and the yield over a thousand gallons. During these years the demands of the French people have been met with the wines from Italy, Spain, Portugal and other countries. The statistics referred to show that in 1875 France imported \$1,787,000. In 1887. 250,585,000 gallons were imported and 51,100,000 exported; There is no doubt but that the vineyards of France are being rapidly restored by means of the phylloxeraproof vines import d from the United States, but the end of the century will probably not see the vine production reach the figures of any of the years proceeding the aute-phylloxera period.

#### SORGHUM FOR FORAGE.

Mr. J. H. Alexander gives some very interesting facts in a letter to the Lie Stock Journal, upon the value of sorghum for

He says upon the thin soil of the bill country the sorghams are invaluable, and he depends largely upon them for grain as well as for fodder.

"I plant plenty of sweet sorgham for green feed and use it liberally from the time it shows a head uptil frost, making successive patches of them. Any that is not fed green is cured in shocks, and if cut up, is good food as long as it lasts. I sava the seed separately, and feed them in place of pats or corn to all sorts of stock.

"The non-saccharing sorghums, such as milo maize (yellow is the earliest and beat) and Kaffir corn, and white Dhours, I plant always two or more kinds for grain and for fodder. Where corn makes fifteen to tweuty bushels, these make thirty to fifty bushela per acre. The stalks are green and full of vigor when the grain is ripe, and that is not the case with c rn. The green sorghum stalks make tons of storage; I never am able to take care of all I make."

The writer substantial s his statement as to the value of sorghum grain for feeding by the reports of the department of agri-culture; and says that the feed question has never troubled him much since he began the use of surghum grain and forage



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FRIDAY......APRIL 27, 1888

### Country Board Wanted.

A family in the city desiring to spend a few we ks in the country wish to find accommodations with some private family on a farm, within easy distance of a line of railroad. Address X. this office, stating location, terms, etc.

The Sacramento Bee says: The immens ranches of Northern California, comprising from 1,000 to 40,000 acres each, and which have been a bar to progress, are gradually dwindling down to small farms, and these small farms are occupied by industrious people. This means prosperity to the whole country. Great land tracts have recently been placed upon the market in Sacramento county, and it is the boast of the Butte county papers that at least 30,000 acres are offered for sale in that county for colonization. The Bee has always advocated the cutting up of the great estates, and it is now glad to see that the plan is being adopted.

THE Anglo-American Times notes that in the famous Mesilla Valley of Southern New Mexico the grape vines are now showing evidence of blossoming, and in a few weeks will be in full bloom. The fruit begins to ripen in July, and is in season until October, when the wine is made from the unshipped remnant of the crop. A five-yearold vineyard, with proper attention, should produce from 800 to 1,000 gallons of wine to the acre. A very superior quality of brandy is manufactured from the lees or aettlings of the wines, and the apple and peach brandy made at Mesilla is said by experts to be quite equal to the best imported French brandies.

The Therp Fly Remedy, the device of Chief Executive Officer Wheeler and Commissioner West, will be tried, when the festive fly makes himself plentiful. The idea consists of a double back action hoop, with mosquito netting adjusted so as to cover the vine, and imprison the fly until the deadly fumes of some active acid take effect, which is said to be instantaneous. Vineyardists who have looked closely into the matter are much impressed with the speedy and effective operation of the new machine.

Subscribe for the MERCHANT.

THE PAGILIBITION element at Riverside prides itself upon the assertion that wine is never seen on the table of any hotel in that town. The opposition party claim, on the other hand, that the lack of wine on the hotel tables drives away thousands of tourists from the town. There is probably considerable truth in the latter argument. Wine to-day is a necessity of civilization and not a luxury of life, as it used to be considered years ago, when the vineyards of the world were confined to a few hundred acres in Europe. Wine is considered the most effective safe guard against the horrors of intemperance, by nine tenths of the thinking people of America, who have been convinced on this point after years of careful investigation. The petty prejudice which ise xhibited by an intolerant party in this respect, leads to an display of a spirit so diametrically opposed to American principles, which is calculated to disgust persons seeking a home, and cause them to look around for a more liberal minded class of people among whom to cast their lot. It has yet to be proven that the water supply at this town of the immaculate is insufficient in quantity or quality to justify an edict, which from its terms is equivalent to persecution of the stranger within its gates. The name in itself has a damp and refreshing sound to people at a distance, who naturally dream of weeping willows, gurgling waters, bullfrogs and miasma. The people who run a town in which a bottle of wins cannot be brought for love or money are apt, however to be peculiar on lots of points. The chances are then, that the name must be taken as a joke, meaning the river is on the other side, somewhere over the mountains. The reputation which this newly founded city is rapidly earning for itself among the outside but enlightened nations of the world, not forgetting California in particular, would justify a change of name, Try Drytown.

THE BEET SUGAR enthusiasts need not feel alarmed at the announcement which has been just made, that the patron of the undertaking, Claus Spreckels means to become a resident of Philadelphia. The shepherd will not neglect his sheep in the California pastures. Their wool has not yet grown long enough for the shears. The only object of this temporary removal is the necessity of superintending the construction of the monster establishment which will be built with the honest intention of shivering the stoutest timbers in the New York Trust. The haughty giant of the Eastern metropolis has to down before our plucky little Californian, David, who goes forth to meet him with his sling and the best wishes of his fellow citizens. California can grow the beet, and sugar is in demand all over. It is therefore not at all unlikely that in the near future the agriculturists of California will yet have a clear field for the product of their farms. The market west of the Rocky Mountains will be swamped with heet sugar. which will than be king. This may be expected where the Hawaiian commercial stock is worth about \$100 above par. When the Sugar King of the Pacific Coast and Islands has floated his banners over the baried hopes of the eastern schemers, and Hawaiian sugar has gutted the markets of the new world to the exclusion and rain of all foreign competitors.

CHARCOAL is excellent as an absorber of gases in rooms where foul gases are present. It should be freshly powdered and kept there continually.

EVERY ENDEAVOR on the part of the wine growers of this State is being made to have Governor Waterman re-appoint Arpad Haraszthy as Viticultural Commissioner at large. Mr. M. M. Estee has declined the place. The S. F. Post voices the sentiments of the vineyardists generally when it says, they think that his displacement was a bad bit of policy on the part of Governor Waterman. Mr. Haraszthy, they say, represents both the old and the new ideas that have governed grape growing in this State. His father was a pioneer wine maker, and was one who introduced the widely cultivated Zinfandel grape from Europe. Mr. Haraszthy himself is a vineyardist as well as a wine merchant. He has had the advantages of a thorough training in the best Europeau vineyards and wine cellars, and he is the only manufacturer of true champagne in California. He is not, moreover, identified with the boycotting merchants of this city. These are the reasons why the vineyardists urge his re-appointment. A delegation of gentlemen, who may be said to represent the wine and brandy producers, intend to go to Sacramento to urge the return of Mr.

Bonfobt's Circular of latest date contains the report that hot debates are going on in Champagne in regard to the IS87 vintage. Some merchants find them good to compound with others, while others, especially those who do not own any of them, think that they are acid and far inferior to proceding vintages,

A number of vintages among the best growths have been severely injured by frost in January. The buds are spoiled on at least one half of the vines in the lower vineyards where the port wins is made. The prunings disclose a poor wood that augusts but a light crop for 1888.

From Bordeaux the report comes that the sudden ending of the fine spell has dashed the hopes which prevailed of an early start in vineyard work. The cold weather which accompanied a snow fall had, the effect of driving every body out of the vineyards.

LIKE MOST ORDINARY mortals, mathematicians are inclined to shirk dealings with figures. Even Newtou, the great master of the great abstruce calculations, could not, ws are told, cast up a sum in addition; and the works of M. Stas, said to have never had an equal in exactitude, have been found to contain an astonishing number of arithmetical slips. Prof. Huxley has given the weight of air on a square mile as about 590,120,971,200 pounds, containing not leas than 3,081,870,106 pounds of carbonic acid, in which is 371,475 tons of carbon. The real quantities, as figured by Mr. Sydney Lupton, are 59,133,431,808 pounds of air. 31,464,899 pounds of curbonic acid, and 375,227 tons of carbon. Another writer has proven the water under a westerly equatorial current, this false result being based on an arithmetical error.

THE TREASURY circular forbidding the importation into France after April 1st of the little Spanish wines fortified with German alcohol, gave rise to an animated business in Cette during the latter part of March, and a combination of strong houses is reported to have been made for the purpose of cornering the market in these wines, which will result of course in advanced quotations almost immediately. In fact, we note already an advance of from two to three francs the hectolitre.

#### AUSTRALIAN VITICULTURE,

EDITOR MERCHANT:—I have the pleasure to transmit to you herewith copies of the four published Progress Reports of the Royal Commission on Vegetables Froducts, in which you will find a large amount of information regarding viticulture in this Colony. The fifth report shall be published very shortly, and shall be duly transmitted to you.

I conclude that you have learned by the Public Press the impetus which has been given to the cultivation of the Vine in Victoria by the labors of this Commission. I may be allowed to add that the Board of Viticulture has recently been established by the Government, and your exchanges will show you the earnest help which has been given to this new departure by the Minister of Agriculture, the Hon, I. L. Dow.

It is in contemplation to resume, in connection with this Board, the publication of the "Vigneron" newspaper, and as the Sectory of the Board, I am now organizing matters for that purpose. It would be a very great help to us to have a complete file of the San Francisco Merchant, say from the commencement of the new volume. The last number which reached Melbourne is that for February 3, 1888, but I should like to have the complete set. I need not say we shall heartily reciprocate.

I am writing by this mail to Mr. C. J. Wetmore, to assure him that if he can spare time to pay us a visit at our approaching Centennial Exhibition he will have a warm welcome from the viticulturists of Victoria.

I shall not fail to let you know from time to time the work done by this Board.

Yours faithfully,

John J. Shillinglaw,

Secretary to the Royal Commission and to Board of Viticulture for Victoria.

The direct conversion of heat into electric work is a problem that continues to tax the ingenuity of electricians. What seems to he the most promising attempt at solution yet made is a new thermo-magnetic generator and motor devised by M. Menges, of the Hagne. Liks the recent pyro magnetic dynamo of Edison it depends upon the fact that the magnetic metals lose their magnetic power when heated. It claims acveral important advantages, however the chief being that the necessary alterations of heating or cooling are given automatically, and that the cores of the armature coils are relieved from changes of temperature.

The State Peinter will soon have completed, and ready for distribution, the Annal Report of the Viticultural Commission, embodied with which will be found the suh reports of the several commissioners. An interesting feature of the publication will be a long and exhaustive report on wines and the wine industry of California by Arpad Haraszthy. In it will also be found the latest and most correct estimate of the wine and brandy crop of '87.

F. Pohndorff, besides being recommended as special agent for the Wine Conference at Madrid, has been appointed an agent for California to take samples of viticultural products and to procure samples of wines, raisins, cuttings, and other European viticultural products. B. F. Clayton has also been appointed as an agent in New York to disseminate information concerning the wine industry of California.

#### TRUE TEMPERANCE.

A writer in the Vineyardist who evidently believes in pure wine-brandy as a check to further into the great and over-whelming top of intemperance. When we come to compare the United States with other countries, in that respect, we cannot help exclaiming that we are, to an appreciable degree, a temperance people. This will be readily seen when we compare the revenues collected in this country and England from the consumption of intoxicating liquers. England with a population less than half the amount we have in this country, receives double the amount of revenue from the above source. With the exception of the nations where vineyards predominate, intemperaoce is far worse then in England. It will be interesting to refer briefly to France. Now, it is a significant fact that but few of the French people come to this country, and why? Simply because the masses have their little strips of farms and their vineyards, paid for centuries ago, and they are their homes, and which they manage with all the energy and frugality they can muster, making for them a peaceful home, and a reasonable amount of comfort. The young min are not forced into the army when th y become of age, as in Germany, where they are driven from their homes, and a number of years are thus deprived of the best portion of their lives. A remarkable fact came to light among the French people after the disastrous war they had with Germany. The Germans held Paris, and they didn't calculate to leave it notil the French paid the former the expenses of the war. Did the French have to call upon any other nation for assistance? Not a cent's worth. The long stockings that these small farmers and vineyardists had been filling little by little, during so many generations, were brought forth and the contents freely offered to the government, to get rid of the now hated Germans, being secured by their government bonds, which has been to them simply a bank deposit.

It has never been stated, that I have any knowledge of, that the French as a nation, are intemperate, and hence it is a plain enough reason why they have always been able to retain their homes. Their universal drink has been a pure class of wine, and soberness has been the rule, and not the exception. I have seen it stated re cently that since the destruction of so many vineyards by phylloxers, there has been more of the fiery liquors made use of than otherwise would have been, which only goes to show that so many craving appetites most be satisfied, regardless of prohibition or anything else.

#### GRAPE CUTTINGS.

Grape cuttings, says the Vineyardist, should now be taken from the cellar, or other places of storage, and buried in a dry anny place, top-end down, so that the upper end is about ten or twelve inches below the surface of the ground, then put on about two inches of good soil, and cover with a thick layer of fermenting horse mannre. This, with the warm rays of the sou, soon warms the layer of earth on the cuttings, and not only induces the rapid callousing of the buts, but the formation of roots also. At the proper time take up the cottings and put them in a well prepared catting bed, and the rapid growth will astonish von.

#### CIVILIZATION IN CHINA

The North China Herald of November 24th says that persons who doubt the barintemperance says: Let us look a step barity of a me of the Chinese punishments have only to walk into the city of Shanghai, a few minutes' task, and they will find one of the most revolting of these punishments in full operations, and its infliction applaud I by all the Chinese who know of it." The criminal, one Koh, is a hardened ruffian who has passed the greater part of the past ten years in jail. The specific if nce for which he has been punished was his blackmailing the new prisoners who were put in jail with him. He was suspended in a cage about five feet high. with his head through the top in a wooden collar, so that he could not reach it with his hands. His feet, which were loaded with chains, were so far from the bottom that he could only just touch it when standing on tip-toe. Here he was condemned to stand, without food or water, just inside the outer gate of the Magistrate,s yamem, the sport for hundreds, until death put an end to his sufferings. The writer suggests that a photograph of the cage and its occupant would be a telling frontispiece to the Marquis Tseng's recent article on the "Awakening of China." The exhibition is supposed to act as a deterrent; practically Koh is a popular hero. The writer found him laughing and joking with the mob, and bandying coarse jests with them and the guards. Some one had given him a stone to stand on, and he had got from some other charitable person, some rice and water and a pipe. "It may be that the sight is such an aninsing one, and the victim is such a witty fellow to judge by the laughter with which his sallies are received, that the hy-standers are anxions to prolong the spectacle as much as possible." The people are said to be full of admiration for the Magistrate's firm and intelligent administration of justice, but the Shanghai writer, views the matter in a different light:-"Here is a nation claiming to take its place with the leaders of civilization, introducing railways and telegraphs, sending its Ministers to foreign courts, and asking to be treated as a sister by the great Powers of the world, and in one of its foremost cities, administered by an Englishspeaking official, and within a few yards of foreign settlements provided with all the resources of modern civilization, a criminal done to denth with circumstances of cruelty that would be tolerated in the treatment of a dangerous wild beast in a really culightened country.

#### A BRULLIANT OUTLOOK.

Stephen T. Gage, one of the shrewdest of Pacific Coast railroad men, and a close observer in all matters pertaining to the development of this State, has been interviewed by a reporter of the San Diego Bee, and give the following as his op nion of the future of California;

"No one has, as yet a proper conception of the greatness of this State. I sometimes ask myself, 'Will this State ever equal the great, affluent and densely populated empire of New York? I answer 'Yes Here we are near the southern boundary line, one thousand miles away from the northern boundary; there is no other State of such 'reach.' What population will it support? Why should San Francisco not become a second N w York? And Sin Diego, with its magnificent harbor, the second city on the coast. You know I am

sanguine of its futar .. '

"California," he continued, "promises to become the greatest of all States, the banner State of the Union. Thire is a universe here as yet undeveloped. I doubt if the most sangu ne, the most enthusiastiman can read the future sufficiently to till to what a great extent California will develop. A few thousand people have set tled on this coast, and the result is a great boom and excitement, but let 100,000 per ple actually settle here every y ar, and th people of California will with as a revolution. There are 100,000 people settling in Kansas every year. Let this not ber comto California and the result will astonish and surprise every man in the State. No. as I have already said, no man can see the future of California, for the simple reison that her future is beyond how imagina tion or expectation.

#### AMERICAN VITALITY

The London Lancet has lately shown : fact in regard to the mortality, or rath i "the expectation of lif" in America and England, quite different from the general beli-f on this subject. Thir is a thory not fortified by many facts, that our som what too energetic way of ding business produces a greater strain of life in America than in England; and that as a consequence. men do not live as long here. We con stantly dwell upon the great age and activity of Mr. Gladstone and others, and call for any similar specimens in the United States; in fine, we Americans, ourselves, are disposed to admit that life is long r in England than here. The Linest, after a thorough investigation, finds quite the con-Taking what may be considered middle age, forty-five, it finds that whereas "the expectation of life" is identical for women in two countries, for men it is one year greater here than on the oth r sile of the water. The American man of fortyfive, therefore, has the expectation of living one year longer than his British brother. Again, in America, men have a greater 'expectation of life" than women; in England it is the contrary. From the age of thirty-five the British women has a much better chance of life than her husband or brother. In Am rica, up to eighty four, the man has the better prospect. Altogether, the alleged "strain" in the United States does not seem to have affected in the lightest degree the mortality or vitality of American men.

#### FORCING THE GRAPE

A correspondent in a Kansas exchange says: Several years ago in the early spring, I picked up a grape cutting on the street, where some neighbor had thrown it. I cut off a stocky section, taking it hom , th n prepared two cuttings of two huds each. entting close below the lower bad, a class almost horizontal cut with a sharp knife I'rocured some sweetings from an o'd hers shoeing yard, composed of raspings from the hoofs, manure and perhaps some sal combined. It had lain some nunths, I filled a small box, such as common woodchoopers' axes are shipped in, perhaps 8 by 12 or 14 inches and sem 6 in hes d p, placed the two cuttings in diag nally oppeate corners of the box, pressel the thrt law Secretary of the Royal Commission on firmly around the cutti gs and in the lox, Vegetable I olucts, of Victoria, Australia, and placed it by the authorized the hone, for equal of the four published. Progress an enthusiast on the State. I have been Then I filled a barrel with wat r, in which Reports of the Commission,

here so long, and have a m so may h of m. I put on p d of carbonate of ammonia that I am naturally in love with it and Fr m this I & ve the bex a liberal appli ation v ry ev ming. Soon the t p lands jut out, and as they grow f kept the tips tenbrly ti I up each morning with a soft clostic spring. On O tober the 20th, folwing a vane was 24 for high from the urf c f the box; the other was 26 feet high and measur d nearly , of an inch in him teres the base, many of the leaves measuring a inch a acresa. They were Concord tick.

#### RINGING THE VINE

A c re spondent in Vick's Monthly depriits the practic of ringing vines, which is dept d by some grape growers for the parse of coloring the fruit early; this result s planned, but at the expense of sweetness and flavor. The eff ct on the market is to wer the price of the fruit. "The novelty and desire for the first grapes that appear canses alm'st any one to take a pound or so along to the family, but the adults soon discover their inferiority, and they refuse to supply the'r children, who will eat anything in the way of green fruit, with more of such stuff. The Champion Grape, which no one in the country can eat, is having the same influence on the market, and both these nuisanc's should be s ized by city authorities and de troyed. Grap -eaters generally b come partially satisfied with their first purchas s, and if not good, bay lightly afterwards, even when the market is surplied with good, rip . fruit."

#### Potash for Vines.

Common harnyard mannes are not adapted to growing the best grapes, though they are much better than no manuring. The faults of stable manures are an excess of uitr gen, causing excessive growth of vine and too little of mineral fertilizers which pr due the fruit. An application of potash in spring or any time during the growing season is very beneficial. Old country vineyards ar manured almost exclusively by the ashes from the burned trimmings of grape vines. Th & ashes are very rich in potash. This mineral food is especially valuable in promoting early ripening. Vines that overbear are simply in most cases setting a large number of clusters than the vine can supply potash for perfecting the roots, and for changing the harsh jaices of the green grape into the richness of the riper one. In our opinion, our growers have not given that careful attentien to manuring their vines which they

In DETERMINING the distance of stars augular m asur ments are made at intervals f six months, the paral ax being the apparnt change of position which results from shifting the print of view about 183,000,000 miles, the dameter of the earth's orbit. liven with this immense base-line, the lir ction in which the stars are sen is car by altered. The parallax of about a d z o stars, varying between 0.919 sec. and 0.016 s c., has n w been determin d. The pearest star to us is Alpha Centanri, distant at ut 2 , 196,000,000 miles. The average distance of first magnitude stars is probably several times as great as this.

WE ARE INDEBTED to the II n. J. F. L. vi n. Pre-i leut, and Mr. John J. Shilling-

#### OUR NATIVE WINE SHIPMENTS BY SEA.

TO NEW YORK-PER SHIP ST. PAUL, APRIL 13, 1888.

MARKS.	SHIPPERS,	PACKAGES AND CONTENTS.	GALLONS	VALUE
W T C & Co	Wm T Coleman & Co	100 harrels Wine	1,953	81,981
C in diamond	t' Carpy & Co	125 barrels Wine,	6,010 )	0.010
**		75 barrels Wine	3,611 (	3,848
FJ	B Dreyfus & Co	500 barrels Wine	24,073	
F J		1 barrel Brandy	. 45	
3 D & Co	41	815 barrels Wine	39,528	
R&I	Lachman & Jacobi	1150 barrels Wine.		
AS	· Date in the Content	15 half-barrels Bmndy	412	824
B & J	44	300 barrels Wine	14,514	5,805
V B W	Whit'ier, Fuller & Co	1 barrel Wine	50	20
	Kohler & Frohling	53 kegs Brandy		
	44	30 half-barrels Brandy	740	2,656
& F		520 barrels Wine	26,092	10,436
**		196 barrels Wine	9,915	3,966
••		100 barrels Wine	5,000	16,403
	Downing & Schmidt	51 barrels Wine	2,402	961
F W		l cask Wine	8,370	
41	J Gundlach & Co	175 barrels Wine	1 680	
AS	8.8	14 half-barrels Brandy	7 090	0,500
A D		200 barrels Wine	9,470	3,788
	Field & Stone	1 half barrel Wine	25	
V Co		135 puncheons Wine	21.548	
11		250 barrels Wine	11.834	4,733
76.6	44	60 barrels Wine	2,865	14,498
C & Co	Lay Clarke & Co	213 barrels Winc	11,590	4,630
Total amount of Br	indy		3,465	6,836

#### PER P. M. S. S. CO'S STEAMER GRANADA, APRIL 14th, 1888;

TO NEW YORK
-------------

J C	Carpy & Co	17 barrels Wine.	816	8425
44	14	1 half barrel Brandy	25	50
F B C	44	5 barrels Wine	240	120
K K D	Dresel & Co	13 puncheons Wine	1.318	765
		50 barrels Wine	2,509	2,509
	Shilling & Co	00 barrels Wine	4.696	1,880
■ B & Son	**	2 ca-ks Wine	126	116
	Vana Valley Wine Co	12 barrels Winc)	650	560
11		1 barrel Wine		00
B D & Co B	3 Drevfus	100 barrels Wine	4,950	1,252
C V Co	14	25 barrels Wine	1,258	625
D in diamond S	Lachman & Co	30 cases Wine	-,	170
JMCL		50 barrels Wine	2,532	831
A V		20 barrels Wine	1.018	339
J L C		2 barrels Wine	99	84
A in diamond	64	17 barrels Wine	856	277
F A	44	30 barrels Wine	1,510	414
S in diamond		25 barrels Wine	1.259	356
E V B io diamond	1+	40 barrels Wine	2.004	704
J H L in diamond		3 half-barrels Wine	83	63
0J		60 barrels Wine	3,005	1,622
P io diamond	6.0	25 harrels Wine	1.176	470
K & K	6.6	7 3/casks Wine)	-,-,-	
***	4+	7 barrels Winc.	1.068	654
K & F		35 barrels Wine	2.801	1.230
		100 harrels Wine	4,922	1.340
T S			-,	100
	,			
Total amount of Wine, 35	5 cases and		38.899	\$16,935
			25	50

#### TO CENTRAL AMERICA.

				1	
AS& Co. Corinto	B Dreyfus & Co	6 kegs Wine	93	8100	
A D. La Libertad	- 16	2 haif-barrels Wine)			
4.0	41	6 kegs Wine	86	120	
J D. La Libertad	16	12 kegs Wine	120	150	
D K, Acajutla		3 half barrels Wine	82	75	
R S, Amapala	Montealegre & Co	40 kegs Wine	480	450	
F A, Corinto	J Gundlach & Co	10 cases Wine		40	
▲ D. Amapala	Eng de Sabla & Co	3 octaves Zinfandel		31	
16	**	3 octaves Port		41	
6.6	44	2 octaves Malaga		27	
F D, Amapala	John T Wright	2 kegs Wine	33	23	
J E, Amapala	10"	2 kegs Wine	20	18	
M M, Amapala	4.0	14 kegs Wine	140	110	
44	,	1 keg Wbiskev	10	30	
E T, Amapala	**	2 kegs Wine	20	13	
F H, La Libertad	Urrucla & Urioste	10 cases Whiskey		80	
FC, Oces	84	6 cases Wine		22	
* **		1 cases Whiskey		51	
4.4	11	3 barrels Wine	64	47	
V O, Ocea	**	S cases Wine		48	
J E, Amapala	Cahrera, Roma & Go	17 kegs Wine	204	190	
F S, Guatemaja	**	12 cases Wine		55	
LO & Co, Amapala,	1.0	1 barrel Wine	35	35	
R & S, Amapala	**	1 barrel Wine	20	18	
-					
			1,397	\$1.613	
Total amount of Whiskey, 14 cases and					

#### TO MEXICO.

G W M, Salinas Cruz	Chicago Brewing Co	4 segs Wine	40	\$25		
C & C, Sac Blas	Thannhauser & Co	3 barrels Wine	84	50		
A D h C Con Plac	11	10 kegs Wine	160	144		
A O C. San Blas	16	10 kegs Wine	160	72		
V F, Tonala	W Louiza	20 cases Wine	411	204		
B F C, Acapulco	60	1 barrel Wine	51	33		
E B, San Blas	64	1 keg Brandy	10	25		
L D, Sall Dias	**	T homele Wine	107			
A B C. San Benito		7 barrels Wine		89		
B H, San Blas	J Gundlach & Co	10 kegs Wine	146	163		
**		2 kegs Brandy	32	83		
4.6	41	4 cases Wine	,	16		
J M, San Blas	J O Meyerink	1 box Wine		5		
J M, Acapulco		9 barrels Wine	275	320		
- 14	4.	7 barrels Wine	235	526		
P D & Co,	W Logica	3 casks Red Wine	178	52		
S, Sao Blas	45	2 casks Claret	120	45		
A D & Co, Acapulco	O Destring to Co.	5 barrels Wine	255	185		
A D to to, monphilot,	D Diejins & Co	25 cases Winc	200	115		
4 P. M	1	20 cases wille	202			
A P, Mazatlan	.1	2 barrels Wine	101	70		
Total amount of Wine,	30 cases and		2,323	\$1,752		
Total amount of Brand	22	108				
TO CLUTTE						
,	TO CA	NADA				

#### TO CANADA.

D W, Toronto.	Lachman & Jacobi	4 barrels Wine	308	8220
	TO NOR	WAY.		
EKE	Dresel & Co	8 barrels Wine	465	8302

#### TO U. S. OF COLUMBIA

DESTINATION.	/. K88&1	R10.	GALLONS.	VALUE.
	H L Tienao		126	\$11
ictoria	Umatilla City of Rio de Janeiro	Steamer	85 939	:30
	City of Rio de Janeiro			• >(
ictoria	Mexico	Steamer		79
onolulu	Mariposa	Steamer	1,334	83
hina	Oceanic	Steamer	200	10
span	Oceanic	Steamer	4,1130	1,5
eston	Mexico	Steamer	2,536	1,0
Total			10,196	84.8

#### A KIND HEARTED SENATOR.

A Washington correspondent of the Los Angeles Express writes: Senator Stanford is very fond of walking around the city. He walks slowly, and sometimes he appears to be a little lame. Some distance behind him, and traveling at the same rate of progress, you will see a weather-worn coupe and horse and a colored driver, who wears a fur cap both Winter and Summer. The last thing you would imagine would be that the millionaire Senator had anything to do with that turnout. The coupe looks as if it had met with a Western cyclone. It is old, the varnish has faded and cracked. the wheels are sprung, and the horse looks as if it would tumble to pieces if taken out of the harness and shafts. At an auction the entire outfit would not get a single bid. But notwithstanding all this, that coupe is known among back and cab drivers as "Senator Stanford's coach," and the old colored man as "Senator Stanford's conchman."

Senator Stanford keeps a number of fine horses and carriages, but in the Winter time he seldom rides to and from the Capitol in his own conveyance. His reason is that he will not expose his conchman and footman to the cold while waiting for him during the sessions of the Senate. It has thus become his custom to walk out to the cab-stand and hire a cab to take him home. In the course of his frequent visits to the cub-stand, he observed that the old man in the fur cap seldom received a job; that he did not possess a point of vantage, and had a hesitancy about offering his services. One day the Senator walked up to the old driver and asked him why he got no business.

"I'll jes tell ye, boss," replied the driver.
"Ye see mos' of des folks up hyar is doods.
Dey wants a fine hoss, a shiney harness
and a tree thousan' dollar kyaridge to do a
50 cent job. My rig doo't cum up ter der
mark: and ter tell de trnfe it don't look
fine But den it's jes as good as de bes."

Senator Stanford got into the old coupe and was driven home. At the end of the trip he surprised the derkey by paying him three or four times the regular fare. The old driver was so joyful and grateful that the Senator made a stipulation with him and has been riding in the dilapidated rig many times since.

As I said before, the California Senator is very fond of walking, and he takes all of that kind of exercise that a weak ankle will permit. If the westher is pleasant he will walk ten or fifteen squares until his ankle begins to hurt him; then he is compelled to have a conveyance near, and in order to have one handy he told the old colored driver: "Whenever you are me walking you follow me. Keep in sight, and when I want you I'll summon you." This explains the reason for the "coach" and "coachmen" following the kind-hearted millionaire Senator.

#### BAITED FOR GIDGEONS.

The Associated Press has sent all over the State the following fishy appearing yarn from San Diego:

Reports of rich gold discoveries in Lower California have created much excitement in this city, and prospecting parties have been fitted out and gone to the scene. It has been ascertained that a number of experts have been in Lower California gold fields, and brought back to their employers quiet reports of rich discoveries. Union publishes an interview with an expert who has been in San Rafael valley. He states that in travelling over the Sierra Madre mountains he discovered a tract thirty miles long and twenty miles wide, which forms one large body of mineral ground. There are hundreds of veius, he says, averaging from three to thirty feet in width, principally composed of free gold and white quartz, which is easily worked and essays from \$300 to \$2,200 a ton. Pincer grounds are reported to cover thousands of acres, and are said to be rich in gold dust and nuggets. The mountains contain several streams of water which have a fall of from 1,500 to 2,500 feet, making the locality available for hydraulic mining. Other discoveries have been mede beside the one alluded to. In every case the supply of water is reported to be good and all the conditions favorable for extensive mining operations.

A gentleman now residing in this city informs the Santa Barbara Times that this is untrue in every respect, and is simply a scheme to entice people down into that God-forsaken country. The gentleman referred to assisted in surveying the identical region referred to, and has been all over it. He says that while gold may exist in the country, it is in such small quantities that it would never pay to work, and as for hydraulicking, it is simply impossible on account of sesrcity of water, the few small streams in the country running absolutely dry during the greater part of the year.

It is to be hoped there will not be a rush of fortune hunters on the strength of the dispatch copied.

#### ELECTRICITY AND PLANT LIFE.

Experience in the winter palace of the Czar at St. Petersburg, indicates that the electric light is injurious to the exotic plants used in the decoration of the rooms. Dr. Siemens lighted his greenhouse by electricity and found no detrimental results, which suggests the theory that the waste steam from the engine driving the dynamo, with which the greenhouse was heated, counteracted the evil effects of the light.

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'Epicure" brand.
Pacific Union Pkg Co.,
Cutting Pkg Co's "Cocktail" (Flats),
A. Lusk & Co's pack,
"Mermaid" brand,

Scandinavian Pkg Co.; West Coast Pkg Co., Warren & Co., "Carquinez" brand; Point Adams, Wadham's Fraser River,

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We also have the "O & O" brand, an outside river fish, and many other brands, that can be had on application.

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Golden Gate Packing Co, "Black Diamond" brand of fruits,
Barbour & McMurtry's fruits in glass, Coleman's "Flag"
brand of fruit, San Lorenzo Pkg Co, Riverside Fruit Co,
Colton Cannery, J. Lusk Canning Co, San Mateo Pkg Co,
Sierra Madre Packing Co, Santa Clara Packing Co

#### FACTS ABOUT OLIVES.

A foreign correspondent writing in the Citrograph, gives the following interesting data of the clive in its home. He say "It was intercating to learn that the oil ranks next to wine in Italian agriculture. In 1880 it reached a maximum of 74,500,000 gallons, but is reported to have averaged before that only about 38,000,000 gallons. Exports for the five years ending with 1885 nveraged 10,000,600 gallons, but in that year, owing to poor crops, it fell off to 9,633,000 gallons. In Southern Italy the processes of making olive oil are mostly rade, and the groves are greatly damaged by the musca olece or olive fly. The finest oil is produced in the hilly districts of Tuscany, such as Lucca, Calci and Buti. The trees are of the best stock and carefully tended, and great care is devoted to harvesting and pressing the fruit. It is difficult to buy oil in Itsly which is not adulterated with cotton seed oil, of which imports were made for this purpose in 1885 to the amount of £270,000 sterling. It is also diluted with

poppy and Sesame oils. There have been many absurd ideas and practices in Southern Europe, respecting olive culture. It is an ancient fiction that the tree will flourish in the poorest soil and exist without fertilizing. Modern agricultural authorities say no fruit responds better to good calture and manuring. Some of the modern ideas are these: The olive sncceeds best where the temperature averages about 57° and does not exceed a maximum of 100°. It flourishes best in dry and hilly regions. It does not do well on alluvial aoils or on sandy plains. In order to escape suffering from dryness in summer, it should be very thoroughly watered in winter. This done it is alleged to stand very protonged drought. In regard to these maxims, however, California needs to experiment for herself without blindly abiding by them. As manure is dear and scarce in European olive tracts, human excrement is recommended as a powerful agency in cultivation, as also hora scraps, woolen rags, leather rubbish, oil cake and guano. But certain fertilizers fornished by the olive itself are strongly advised. The trimmings of the trees are utilized as forage for different animals, and the manure should be acrupulously preserved, or at least, if not fed, they should be buried about the tree, The oil cake from the mills is of great value, as also the saline juice. If this fluid cannot be used for watering, it should be collected in receptacles and permitted to deposit its precious residue. Pruning should be done in moderation. Excessive cutting back is poor policy, as is also the ancient custom of permitting the tree to grow dense. The same stalk will not flower twice, except on its extension, and the development of fresh shoots is desirable for fruit the succeeding year.

The olive appears to affect the sea, but in Europe it flourishes as far inland as ninety miles. It does well in the neighborhood of Nice at the elevation of 3000 feet. In regions remote from the sea and exposed to cold, rugged trees are preferred and modern authorities recommend the Verdale. Near the sea, fruitfulness and quality of oil is the object of desire. For this region an eminent French authority recommends the Cayon, which pushes rapidly and comes early to fruiting. It is low in habit and dreads the cold, but it recovers itself quickly after a freeze. In case of serious damage tree to the roots, when the fresh growth will lax and diameter.

begin to bear in two or three years. The Cayon fruit is reddish, gives a first quality of oil, and preserves the flavor of the fruit which southern epicures delight in. Another recommended variety is one usually called the Pendoulier, but known by varions names. It is so call d because it has a weeping willow form, the limbs drooping down from its lofty branches. Like the Cayon, it gives a good crop every two years. The fruit is black, slow in maturing, makes a fine oil without flavor of the fruit, which northern customers prefer. These trees do best in special culture-that is, not mixed with other crops-and with good maturing and frequent pulverization of the soil. Southern European growers prefer to grow their nurseries from the witd olive seed, which is larger than the cultivated. One advantage, especially if the seed is put where the tree is to remain, is tha long tap root, which in case of removat has to be cut by reaching it from a trench. These seeds develop more vigorous trees, it is asserted, and as all olive trees are grafted there is no special disadvantage in using the wild seed. This seed readily germinates also, having been digested by the wild birds. In ordinary cases the seed has to be prepared by chemicals or by opening the nut to the air. It is also a custom to feed the fruit to domestic fowls and gather up the droppings all ready for planting. In the case where frozen trees are cut to the ground it is recommended to do no trimming whatever the first year.

There are two maxims which are given by the modern authorities as of great importance in a country of irrigation or protracted sunshine. One is to specialize cultures, planting the various crops in patches by themselves and not permitting the growth of any annual crop between them. The other is expressed in the adage, "no crust, no clod, no herbage." There is also a maxim, "a pulverizing is equal to a shower," and another which says, "pulverizing is mulching" and should be practiced frequently. When the ground bakes myriads of infinitessimal capillary tubes are developed in the soil and speedily exhaust the earth of moisture. Humidity will be found nearer the surface of pulverized than of hardened or cloddened ground. As to herbage it was noticeable in Redlands that the trees which anffered most from freezing last winter were infested with alfilerilla and other ten weeds. The idea that this growth pays its way by being let to flourish for a season and then being turned under for manure, has no solid support on European authority. These are some of the points of information we extracted from our brief interviews with the olive jars at our hotel tables at Genoa. To go extensively into the crop question would overload the narrative of our adventures. One remark, how ever, comes in very properly just here. There are many ignorant and erroncous methods of agriculture even in thesa old countries. One of the great labors of modern science is to correct them. Therefore, a new country like California cannot afford to take up blindly every old-country notion, however much it he hallowed by ages of practice,

Occulations of stars by the planets are extremely rare, but Dr. A. Berberich, of Berlin, believes observations of them would be very important, throwing light on the extent and density of planetary atmosphere, and in the cases of Mars and Venns affordby frost, the recommendation is to cut the ling a means for the determination of paral-

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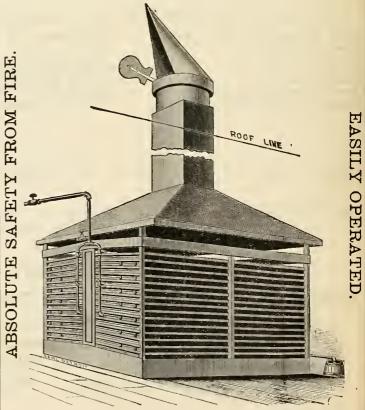
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#### COLOR IN GRAPES.

In growing seedling grapes, writes D. S. Marvin in the American Gordon, we are just as apt to get a so-called white grap, from a black one and vice versa as one of the color of the parent stem. From the thousands of acedlings I have grown and observed, I do not think that hybridizing has any effect in determining the color of these edlings. The coloring matter of wine is well studied in Thudichum and Dupre's exhaustive treatis on wine, and incidentally the coloring mutter of the skins of grapes is alluded to. On page 264 it is said: "The juice of most grapes is perfectly free from tannin; the skins and stulks (stems) however, contain a considerable quantity of the substance which, though not ordinary tannin, closely On page 255: resembles it in properties." "Color in wine is produced by the oxidizing effect of the air upon matters contained in grapes, the so-called extractions, on bodies not yet known and the tannic acid." It will be seen that it is the effect of sunlight acting upon the tannic acid of the skin and these unknown bodies that play so important a part in the color of wine; this leaves the origin of color somewhat unstudied.

But back of all I believe there are cause entirely outside of chemical action and reaction that have led up to and originated the color of the fruit. I refer to the inflaence of birds in selecting for color, the interchanges of action and reaction upon the alow, gradual development of the fruit It is not yet known from what plant the grape originated, but from a careful con sideration of the tendencies of the plant, the seedlings breaking into such a number of species, and each of thes species again into such a multitude of vari ties, and these vari ties sporting into so many new tints and colors of skin and pulp and seeds, we must conclude that color has exerted such nn influence upon some of the plant's vital economies that the color of the fruit has come to be of very great importance in the welfare of the plant.

The vine had its origin some time daring the tertiary period, the early fruit being small and inconspicuous. Some of the plants and matter, sporting a little from favorable environment, developed higher colored berries. The hirds being attracted fed upon the berries and carried the said to a new and perhaps more favorable environment, where they germinated and d veloped still more attractive fruit. From clime to clime and age to age th se perhaps continged, notil finally primitive man, coming to the aid of the birds and recognizing the attractiveness of the food value of the fruit, b gan its selection and cultivation, always selecting from the largest and most pulpy varieties, that before, perhaps, had been little more than skin and seeds, and, like the birds, selecting the highest colored and most attractive varieties for dietetic purposes, dissemination and improvement, until civiliz d man, taking the plant under control, the grapes of Eshcol finally gained an historic record with all their attractiveness and alluring colors, the bright colored truit always b ing chosen by birds and man

With some varieties of grap s, like the Concord, there is little or no coloring pigments in the pulp, the coloring matter, as we would naturally suppose from the suggestive cause of its origin, residing in the skins. In some varieties, those of which colored wines are made, the pigments have gone from the skin into the pulp, and even the aceds are dark, as in most of our riparia better wines to win that trade, than those

grapes and some of the natives of Europe. Mr. Darwin and those who have studied the colors of the plumage of birds have suggested that their brightest tints have ori ginat d in and through sexual selections, but the origin of color in grapes must be attributed to selection for dietetic purposes by the past joint action of birds and man, but, of course, mainly and for long ages by the lards alone. And I am convinced, from the study of our native grapes, several of whose species appear older than Vitis vini fera, that it is generally in the oblest species that we find the dark color of skin, seed and pulp, while our most recent species hav more purple and red instead of darker pigments. In closing the writer desires the above to be considered more as suggestions to cause others to study the topic than a finished contribution to exact knowledge.

#### PRICES OF WINGS.

L. D. Combe, in the Santa Clara Valley,

says:

For the benefit of those who do not seem to realize that there is no just cause for the prevailing low prices of new wines in this cenuty and State, we will give here a synopsis of the prices of new wines in Italy during the week ending January 15th, 1888. The prices given show the extremes of the market for ordinary red and white wines-When exceptions are made the name of the wine is given:

Change Da	r restion	1	UBI
Turin	11	Ist quality 40 to 50	1.6
Tracter	64	2nd quality 35 to 49	0.6
		ordinary25 to 39	10
Alba	11	95 10 32	4.0
Asti		ordinary	
8.9	4.6	Barbera40 to 50	61
15	11	Nebbiolo	4.0
Carale M	6.6	ordinary 24 to 32	
Notara	0.0	ordinary 24 to 30	1.7
Modena	1.0	ordinary	6.6
Da one M	Windship	y	* 4
	4 I CHIEF	20 to 80	6.0
remona	11	25 10 10	-1
Padua		25 ta 10	- 11
Verona	81	24 to 32	
Traviso	8.6	28 to 40	66
Lologna	1.0	20 to 26	•••

The above list from all the principal mar kets of Northern Italy is sufficient to show that they receive a much higher price for their new wines than we do, notwithstanding the fact that our ordinary Zinfandel, when fermented, would be considered above the ordinary wine so called there.

We had occasion to taste some Barbera imported expressly for comparison, by the Hon, John T. Doyle and submitted before the State Vine-growers and Wine-makers Association at its regular in eting on Junuary 3rd, in San Francisco. That wine is quoted new, on the place of Asti at 40 to 50 cents per gallon. The verdict of those who insted the Barbera that day, was that it could not even compare in quality with good Zanfandel.

We should consider also that a great deal of the crops of 1886 is still in the growers cellars in Italy, which fact certainly must have a tendency to lower the price of new wine. Comparatively speaking, we could afforl to deliver our new wines on the Italian markets at such prices. These facts have a twofold interest for the vine-growers of California.

1st. The price paid for new wine to the producer here, little or no comparison to its intrinsic value as an article of general cemmerce, or as compared with similar wines in the principal markets of the world, and

2od. In order to compete with it in the markets of South America, provided we are allowed to fortify our wines if so desired, they will have to use their inferior wines to meet our prices. This they will be able to do as long as we are not allowed to fortify our dry wines or as long as we do not use

that have been jobbing for 12 to 15 cents on this season's markets.

While we are willing to concede that, in the present stage of wine-making, there is much wine that is no worth a very high price, we contend that a great deal of excel lent wine is sacrificed to the Molock of cheap trade. Those who should be the very ones to uphold the value of our goodwhen brought in competition with those of toreign lands, seem to forget the fable of the hen that laid the gold n eggs. If the succeed by their system of cutting down prices to disgust the vine-growers, they will either force these to become merchants or to raise other kind of fruits besides grapes

One more comparison, and it is whit this is the country of freedom in its broadest sense, it is also cursed by the greatest num ber of monopolies, trusts, syndicates, etc. whose principal purpose is to floce the tiller of the soil within an inch of his life and without the interference of a government for the people and by the people but run for the benefit of the strong.

#### THE KAURL

The Kauri (Dammara Australis) is the finest tree in New Zealand, and produces the most valuable timber. It is restricted to the northern part of the North Island and does not occur in any quantity south of a line drawn from Port Waikato to Taurauga, although solitary trees or small groups are found as far south as Maketu on the cast coast, and Kawhia on the west. It attains the height of 120 to 160, feet and upwards; clean, symmetrical trunks may be seen from 40 to 80 or even 100 feet in length, varying from 4 to 12 feet and upwards in diameter. The timber has acquired a reputation above all New Zealand kinds from its value for masts, spars, and other purposes of naval architecture, which led to its being exported for use in the British dockyards about the commencement of the present century.

Except for general building purposes, its ase has been chiefly confined to the North Island, where there is abundant evidence of its durability for more than thirty years in some of the old mission buildings at the Bay of Islands, the weather-hoarding of which exhibits no signs of decay. The same must be said of some of the oldest houses of the city of Aukland, and in other partof the province, although I have been un able to obtain trustworthy evidence of their existence for more than twenty-three o twenty-four years, as in all the towns mosof the old buildings have been removed to make way for improvements.

Kauri has been employed, in conjunction with totara, for the upper timbers of th Aukland wharf, the largest work of the kind in the colony, and with most satisfactory results. Braces, stringers, and tibeams are in good condition after being eighteen years in use. The greater portion of the old Wynsard pier was recently re moved in the formation of the Warkate railway, when many of the timbers were found sound, although others were much decayed, after fully twenty-three years service.

It has been extensively used for bridge timbers with the b st results, but I am not aware of any instance of older date than the Aukhand Wharf.

The superiority of Kauri to Tasmanian blue gum, under heavy wear and tear, has been demonstrated by the use of both timbers on the Aukland wharf, when the form er was found to last twice as long as the latter, under acvere tests.

At the Taupiri coal mines, sleepers were in good condition after from five to nine years' use. It has been us did the tramvays of the Thames gold-field, where it is sound and good after being five years in Mr. A. Sheath, Inspect rof telegraph was for the North Island, informs me that he Kari kerbing opposite Government H use, Auklard, was taken up after being all eight en years, and was their perfectly

It has been employed for trainway rails in the Thames gold-field and was nearly everywh re found in excellent condition aft r five years' wear and tear. At the Waikato coal mines it has been employed for the same purpose for nine years, and is still serviceable, which is remarkable, as the rails were cut from small-sized trees growing in the neighborhood. Totara and rimu rails laid at the same time have perish d, the former preliably from having be a also sawn out of young timber,

On the Thomes gold field it is used for mine props, struts and cap pieces, and perintains its character for durability, al" though for this purpose tanekaha and black oirch are often used on account of their smaller cost.

#### USES OF LEMON.

Lemonade from juice of the lemon is one is one of the best and safest drinks for any person, whether in health or not. It is suitable for all stomach diseasea, gravel, liver complaint, inflammation of the bowels and fever. It is a specific against worms and skin complaints. Lemon juice is the best entiscorbatic remedy known. It not mly cures this disease but prevents it, Salors make daily use of it for this purpose. I advise every one to rub their gems with bemon jaice to keep them in good condition. The hands and usi's are kept clean, white, soft and supple by the daily use of lerum instead of soap. It also prevents chilblains.

Lemon is used in intermittent fever, mixed with strong, hot, black coff e, without sugar. Neuralgia may be cur d by rubbing the part affected with cut lemm. It is valuable, also, to cure warts and destroy dandruff ou the head, by rubbing the roots of the hair with it. It will alread and finally cure coughs and colds and heal diseased lings, if tak in hot en g ing to bed at night. Its us s are marifold, and the more we employ it externally the b tt r we shall find on s lves. L mon jure is useful in removing butter from the toth. anti febrile, etc. A doctor in Rome is trying it experimentally in malaria fever with great success, and thinks it will in time supersede quinine. 1x

#### A NEW WINE COMPANY

Articles of incorporation of the Poerfie Wine Company have been filed for record in the County Clark's office at San Jese, Its purpose is declar d to be to man ufacture di-til, buy and seli wm s, I randies and all other products of gropes, trust and grain. Also to manneg and dod in real estate. The principal place of business is S in J ac. The Directors are Wil iaux Farrington, J. 11, Pieper, A. H. Albers and C. W. Fiscuer of San Jose, and W. A. Moore of Los tratos. The capital stock is \$250,000, divid d into 250 shares. \$30,000 has been paid up, as fellows. Wi liam Farrington 15) shares, A. H. Albers, 50; C. W. Fischer, 10; W. A. More, 20, J. H. Pieper, 10, W. Etchell, IU; H. C. Moore, 5, T. H. Frolich, 35.



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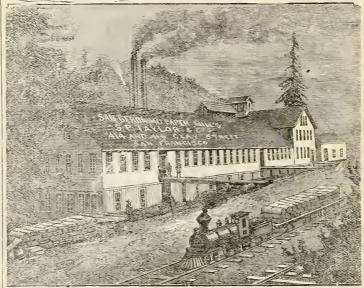
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VITICULTURAL PAPER IN THE STATE.

Devoted to Viticulture, Olive Culture, and other Productions, Manufactures and Commerce of the Pacific Coast.

VOL. XX, NO. 3.

## SAN FRANCISCO, MAY 11, 1888.

PRICE 15 CENTS

# Report of the President of the State Board of Viticultural Commissioners.

SAN FRANCISCO, April 11, 1888. To His Excellency, R. W. Waterman,

Sta:-The Old Mission Fathers planted the grape vine in California immediately or shortly after their arrival, previous to 1770. They planted small tracts close around their Missions, guarded them jealonsly with high adobe walls, cultivated them carefully, gathered their fruit and made wine. These wines, so far as we can learn, did not enter into the trade of those days but were consumed by the good Fathers, their occasional visitors and their immediate retainers. Even after the arrival of Americana in 1849, and with them representatives from every civilized nationality on the globe but little advance was made towards increasing the area of viticulture, till the year 1858, when, through the publication of vine articles in the reports of the State Agricultural Society, and in the newspapera, a general and wide spread interest manifested itself in vine planting and the area of our vineyards became very greatly increased. A very large proportion, however, of these new plantations consisted of table grape producing vines, and the remainder was almost exclusively composed of the old Mission variety.

Towards 1862, vine planting arose to a genuine enthusiam and a lively interest was shown in selecting better varieties for the table, for the wine press and for raisin

Of the three Commissioners appointed by Governer Downey in 1561 "to report upon the best means and ways to promote the improvement and culture of the grape vinc in California," Don Juan Warner returned a clear concise report on the State of Vinc Culture at that period within the limits of our State. On the other hand, the late Agoston Haraszthy went to Europe and and after visiting all its most important viticultural districts made an elaborate re port on the European methods of cultivating the vine, making wine and curing of raisins, adding practical suggestions to the California vine grower, and at the same time bringing grape-vine cuttings of every attainable variety in Europe, Asia Minor, Persia and Egypt. These were

atterwards gradually distributed in small lots to different parts of the State and formed invaluable nuclei for experimentation. No report was ever received from the third member of the above Commission.

Towards 1870 the production of wine and table grapes became greater than the demand, and our viticultural industry began to lag and finely became so discouraging that in 1875 many vineyards was either abandoned, uprooted or replaced by orchards and grain fields.

In 1879 the demand for table raisins and wine grapes caught up with the appply, and a new interest was awakened in viticultur : Our raisins were looked upon with charity in the East, our rich clusters of table grapes admired and sought for, while our wines, though still very crude, had found more numerous and less exacting custom-

Up to 1880 those who believe in the value of varieties of grape for wine making, other than the old Mission were few and far between. With the exception of a very limited number of vine growers, none believe any grape could be as good as the old Mission, and we have even at this date s Quixotic spirit existing in some parts of our State still advocation the planting of this very poor quality lacking grape.

Experience has shown that it only produced an ordinary, coarse, heavy, flavorleas white wine, taking an indefinite period to mature. Such questionable qualities as it may possess in the production of a white wipe are more than overlalanced by the miserable red wine made from it. And to this cause more than any other, I attribute the bad reputation our wines had earned, both at home and in the Eastern States, previous to the more general planting of other and fiver varieties of grapes

Many claims have been made by the admirers of the Mission grape but none have been proven. It bears unevenly, ripens unevenly, and takes upon itself almost every disease that comes along. In this respect we have to congratulate ourselves, for soon the Phylloxera and the grafting knife will have rid us of its presence in our vineyards. In point of fact, most of our vineyards are now planted with vinea more hardy, resisting disease better, more constant bearers, producing finer qualities and greater quantity than the Mission ever succeeded in doing under the most favorable conditions Through the persistant efforts of a few en-

terprising viticulturists, small quantities of wine have been produced from the imported varieties, whose character was so distinctive and so strikingly showed superiority over those made from the Mission, that new faith was born in the future of California wines, and the belief spread that under proper conditions, our State might some day make wine of a superior grade, and eventually rival some of the better wines of European Countries.

At the beginning of 1880 onr viticultural interests were in a complete state of chaos. In spite of the efforts made by onr wine makers and wine merchants, only a limited market had been secured for our wines in the Eastern States, and though the demand showed a steady annual increase, it was at the slowest of rates. Fven that small increase however, was considered gratifying honorably maintained up to this day. and hailed as enconraging.

The crop of the year 1879 had been a short one. The old stocks had been exhansted and suddenly the price of all kinds of wine went ap, and the supply was barely sufficient to meet the demand of the mar-

This awakened the more general interest of the public in vine planting, but there was a woeful lack of knowledge, a want of system, no besten paths to follow, and but a few acknowledged authorities to apply to for imformation. Numerous newspaper articles appeared calling attention to the value of viticulture in our State, and expressing the desire for the formation of some State Institution, where such practical knowledge might be obtained as was necessary to the successful conduction of this important branch of agriculture.

Under these influences soon after the State Legislature took the matter nader advisement, and in March, 1880, the State Board of Viticulture was created and provided with a modest fund to meet its nec- Chas. A. Wetmore, Chief Executive Vitiessary expenditures

The numerous duties falling to this Board are fully outlined in the Organic Act, then created and approved April 15th, 1880, and enlarged in 1881, and which you will find in our First Annual Report, on pages 5, 6, 7, 8

Under this Act the State was divided into seven viticultural districts, each having a representative in the board appointed by the Governor, and chosen from among men, practically conversant with viticulture in its various branches, and recognized in their districts as suitable for the position.

Besides the Commissioners from these seven viticultural districts, there were to be appointed two extra Commissioners to represent the State at large, thus forming a Board consisting of nine Commissioners. The officers of the Board were to consist of a President, a Vice President, a Secretary, and a Chief Executive Health Officer. No salary was allowed any of the Commissioners or Officers, except the Chief Executive Officer, and the Secretary, the rest of the Board serving without compensation.

It was understood that the Governor of the State having the appointment of thesa men, would choose those who were most adopted to fill the post of honor without regard to social position, Creed or Politics, and though the term of three Governors have ended, this understanding has been

The original appointments were made, and the several Commissions signed by the Governor, 19th April, 1850, and immediately upon receiving notice to that effect. the Commissioners assembled, organized the Board and shortly afterward began their

The following list comprises the officers and members of the Original Board of State Viticultural Commissioners as above organ-

.... President Arpad Haraszthy ..... Commissioner for the San Francisco Dist. Chas. A. Wetmore .... Vice-President Commissioner for the State at Large.

Chas. Krug.... Commissioner for the Napa District.

1. DeTurk .... . Com. for Sonoma Dist. R. B. Blowers. Com. for Sacramento Dist. George West .. Com. for San Josquin Dist. L. J. Rose .... Com, for Los Angeles Dist, G. G. Blanchard, Com. for El Dorado Dist, J. DeBarth Shorb. Com. for State at Large Dr. J. J. Blessdale ... .... Sceretary cultural and Health Officer

STANDING COMMITTEES.

Executive, Chas. A. Wetmore, Go. West, and I. D Tark.

Auditing..... Finance, L. J. Rose and J. D. Burth Shorb PHALLOXERA, VINE PESTS, AND DISEASES OF THE VINE.

I. DeTurk, Geo. West, Chas Krug, R. B. Blowers and Chas. A. Wetmore

ON CONFERENCE WITH BOARD OF BEGENTS OF STATE UNIVERSITY

Arpad Haraszthy, Chas. A. Wetmore and Chas. Krog.

ON INSTRUCTION FOR THE OFFICE OF THE CHIEF EXECUTIVE VITICULTURAL OFFICER. Arpad Haraszthy, Chas. Krug. I. DeTurk

ON BORTICULTURE.

Geo. West, R. B. Blowers and J. DeBarth Shorb.

ON DISTILLATION, COUNTERPEITS AND ADULT-ERATIONS.

J. DeBarth Shorb, Chas. Krug, Geo. West

The following are the only changes that have taken place among the Commissioners and Officers of the Board irrespective of the various Committees:

In 1881, John H. Wheeler hecame Secretary, in the place of Dr. J. J. Bleasdale.

In Feb. 1885, Chas. A. Wetmore was appointed Commissioner for the San Francisco District, vice Arpad Haraszthy resigned, and on the same date Arpad Haraszthy was appointed Commissioner for the State at Large, vice Chas. A. Wetmore resigned.

In 1887, Chas, A. Wetmore resigned the position of Chief Executive Viticultural Officer, and was succeeded by our Secretary, John H. Wheeler. Clarence J. Wetmore was then appointed to the place of Secretary.

Later on in 1887, Dr. W. S. Manlove was appointed to the place formerly occupied by R. B. Blowers, representing the Sacramento Viticultural District.

The various Committees as then appointed were calculated to cover all ordinary contingencies that might arise, and but few changes have since taken place among

There has been no change in the position of President, Vice President and Treasurer.

For a better understanding of the important labors undertaken and accomplished by our Committees, I refer you to the First Annual Report of this Board, which you will find herewith transmitted, together with subsequent papers and Reports, eminating from the Commission.

The more important labors for the year 1880, as published in the First Annual Report, were as follows:

1st. Identification of the presence and habits of the phylloxera, and experiments made towards discovering a remedy to check its extension, and if possible resist its ravages and exterminate it. With this purpose in view, valuable translations were made from the French and other lauguages, containing instructions regarding the use of the various supposed Phylloxera remedies.

2nd. The securing and studying of the supposed Phylloxera resisting vines.

3rd. The grafting of the superior known varieties upon inferior varieties of vines.

4th. Raisin making in Spain, with full and most valuable details.

5th. The study of the wild vines of Califorma, and their adaptability for making wine or producing roots to be grafted upon.

6th .- The study of fertilizers suitable to vineyards.

7th. Practical instructions in the planting of new vineyards, and selecting of proper varieties of grape for table use.

8th. Raisin curing, wine making, brandy distillation; I can say with some pride than the work of the year proved to be of the ntmost benefit to all classes of vine growers.

The demand was so great among the public for the Report of the year, that the complete edition of about 3,000 volumns was almost immediately exhausted, and a second edition had to be printed to meet the demand.

method with which it was carried ou, was so well appreciated by the succeeding Legis lature, that it organized a State Board of Horticultural Commission, under similar laws as those of this Board, and put the same under the direction of the Viticultural Commission to take charge of, together with the funds appropriated for its main-

Thia Horticultural Commission was supervised by our Board during the term of two years, and the result of their supervision proved itself satisfactory both to the Horticulturists and the public at large. Owing. however, to the additional work thus thrown upon this Board, it appealed to the Legis lature to relieve them of the charge, and allow the Horticulturists to conduct their own Board, as they might think best. This was acceeded to at the following term of the Legislatura.

For the year 1881, I refer you to the printed Report, also herewith transmitted, consisting of the reports made by the severa Commissioners, together with a report of the Chief Executive Officer.

The latters report consists mainly of experimental field work, grafting, fertilizing and observations made on the habits of the phylloxera. Following these papers, come a number of valuable translations made from recognized French authorities, and consist of treatise on submersion of and planting the vine in sand as guards against Various methods of the phylloxera. pruning and cultivation of the vine. Characteristics of the principle species of wild vines, studies and observations on the wild vines of America, instruction in the handling of insetisides, dangerous to the vine, reports on the results of the same. Follow ing this comes the Second Annual Report of the Committee on the phylloxers, vinepests, and diseases of the vine.

Owing to the demands of an appreciative public, both additions of the above volumns are now completely exhausted.

The third annual report of the Commission is contained in the Second Annual Report of the Chief Executive Viticultural Officer, and covers the years 1882, 1883 and 1884. This volumn you will also find in the collection sent you. In this report will be found information of the most valuable kind regarding the developments of our viticultural industry, and the culture of the vine in California. A speculative essay on the varieties of grapes possibly adsptable to our climate and soil. General principles governing the vegetation, pruning, training, and cultivation of the vine, to which are joined elaborate illustrations, showing methods of the different operations. Then follows the Ampelography of California. Diseases and pests of the vine, miscellaneous topics, translations, treating of the culture of the vine Eu Chaintres. with illustrations, translations showing the culture of the vine in the Gironde; and finally, translations describing and illustrating the various methods of grafting.

This volumn is one of the most useful, practical viticultural books, that has ever been printed in the English language.

In the year 1882 the Commission inaugated the First Viticultural Convention, and this proved to be the most effective method of gathering and disseminating just such knowledge as was required by the neophyte in vine planting, raisin curing, and winemaking.

Many valuable papers were read at the

The work of this Commission and the samples, raisins, wine and table grapes were exhibited and reported upon by daly appointed and thoroughly competent Committees. The result proved itself of the most satisfactory nature, but owing to a lack of funds in the State Printing Office: the proceedings of that Convention were only devices for perfecting the packing of raisins. published through the enterprise of the owners of the San Francisco MERCHANT, and through that medium became distributed throughout the State.

In the following year a District Viticultoral Convention was held at Los Angeles which resulted in producing a marked improvement in the manufacture of wines in likewise to the greater knowledge attained that District, through the introduction of varieties of grapes hitherto almost unknown for certain localities, planted with due reto that section.

During the same year the Second Annual State Viticultural Convention was held in this city under an increased interest among the public and the vine growers generally. Papers of value were read, discussions entered into, grapes, raisins, wine and bran dies were exhibited, submitted to competent committees and faithfully reported upon.

Again awing to a lack of funds in the State Printers Department, the proceedings of that convention had to be turned over to private enterprise and the San Francisco MERCHANT took charge of the same, publishing the proceedings in its columns.

In the year 1884 a District Viticultural Convention was held in Fresno and raisin curing was given the post of honor. Then came irrigation, drainage, proper varieties of grapes, insecticides, and the making and storage of wine in hot climates. A marked interest was shown in the topics under consideration, and much practical knowledge acquired. The proceedings were published in the San Francisco MERCHANT for reasons already mentioned.

In the same year, the Third Annual Viticultural Convention was held in this City, similar in tenor to those previously held and you will find joined herewith, a full report of that Convention, which was again printed in the San Francisco MERCHANTS for want of an adequate appropriation in State Printers office. At that Convention about 400 samples of wine and brandy were exhibited, coming from nearly every wine district in the State, besides many samples of raisins and table grapes.

The Fourth State Viticultural Convention was also held in this city and likewise published in the San Francisco MERCHANT, for want of funds.

In 1886, our funds having been exhausted in our endeavor to pass a National Pure Wine Bill, the conduction of our Cenvention was turned over to the Grape Growers and Wine Makers Association, and held in this city under their auspices in March, 1887. A copy of the proceedings you will find transmitted with this Report.

The Sixth Annual Convention was held in the beginning of March of this year, and if possible proved itself even more popular, and more satisfactory than any of its predecessors, there being a larger attendance and a larger number of wine and brandy samples exhibited. Thus clearly proving the recognized value of these Conventions, and their growing appreciation by the vine growers at large; and I may here state I know of nothing so condusive towards the rapid improvement in quality of our viticultural productions as the holding of auch Conventions,-the reading of papers from practical and experienced men, and a considerate discussion of the merits of the Convention, and a large number of wine subjects presented. At all Conventions,

more or less machinery and viticultural implements have been exhibited, and closer attention drawn to the value of numerous new methods and new appliances for the pressing of wine, the crushing of grapes, the grafting of vines, the tilling of the soil and

Reports of the various Committees on wines tasted during the last Convention, were nnanimous in the acknowledgment of their marked improvement in quality over those of previous years, attributing the improvement not only to the hetter management in the fermentation of the wines, but in the selection of proper varieties of grapes gard to exposure, soil and climate.

To further demonstrate the extent of the work accomplished by the Commission, I herewith add a harridly collected index of original papers, written on various Viticultural subjects, by the Officers and members of this Board, as well as those written by others at a solicitation of the Commission, and have indicated where these papers were printed and can be found. It is with a sense of pride that I point to these practical papers on the various branches of Viticulture, and invite any other wine country to show a single one of its Institutions that has accomplished more in the same period of time.

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	Grape-Vine Hopper. (How to Destroy	J. P. Smith, Livermore: "Our Markets for Wine."
10:	the California) S. F. MERCHANT, Apr. 27, 1883. J. H. Wheeler	F. T. Eisen, Franc: "How to Conduct
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Fermentation in Fresno County."

Prof. E. W. Hillgard, Professor of Agriculture at University of California: "Results of Experimental Fermentations made in 1887."

Chas. A. Wetmore, Vice. President, Board of State Viticultural Commissioners; "Practical Temperance Reform."

Arpad Haraszthy, President of the Board of State Viticultural Commissioners: "How to Drink Wine."

F. Pohndorff, Mission San Jose: "Wine as a Temperance Agent,"

# TREATMENT OF THE VINE DURING VEGETATION.

In continuation of the article on the subject commenced in last issue of the Men CHANT, we find that ten men can in one day fix 10,000 metres of straw mattingthat is to say, cover in and protect a hectare. Guyot succeeded in causing ten men to protect 70,000 metres in six days. The straw mats remain in this position to the end of May. From the 30th of May to the 5th or 10th of July they are raised so as to form an angle of 60° with the horizon, being always open towards the east and south, and closed towards the north and west. The rods of the vine grow up along the main stake, and the little earth wall behind the vine is being diminished by means of the hoe to about one-third of the original height. All the shoots of the fruit branch are pinched, while the wood branches of course are not pinched.

During the stage in which the vine has to be protected by straw mats to save the blossoms from destruction by cold and rain, and during the following or third period-from the 10th of July to the 10th or 30th of September, according to the weather-the mats are fixed perpendicalarly to the north and west of the vines It is estimated by Guyot and Constant Charmens that this precaution alone will advance the maturity of the vine at least a week. The straw mats now act as little walls, against which the grapes ripen, and if they are blue become dark. Lastly, in the fourth period-the end of the sensonin order to protect the leaves from early frosts, and the grapes from rotteness by rain, the straw mat is fixed almost horizontally over the bearing part of the vine, and acts in fact as an umbrella against the rain and cold, or intercepts radiation as a screen. These four changes require four operations, which cost 100 franes, including the bringing in and taking away of the straw mats under circumstances in which the wages of a man are two franks for ten hours. Ten men will unroll and fix the straw mats required for a hectare as above stated. The intermediate manoeuvres of lifting, changing position and so forth, require less time than the first operation On an average the straw mats last four years. Their price ought not to exceed 15 centimes the running metre. This, therefore, would be 400 francs per hectare per year; at present they cost 20 centimes, which brings the total expense per hectare to 600 francs, which is somewhat too dear. In eases where the vintage is worth 30 francs the hectolitre, and an increase over the ordinary production is attained by the straw mats, an advantage begins to be possible; but where in the fine vineyards the hectolitre is worth 50 or 100 francs, an extra production of thirty hectolitres will of course leave the profits at 900 francs, 1500francs or 3300 francs per hectare.

Guyot protected 62,500 metres of vines by means of straw mats. These occupied five hectares by the side of twenty-nine hectares, which had been protected against early frosts in spring in various ways; but none was as successful as the protection by straw mats. In 1857 this vineyard in the neighborhood of Sillery was full of blossoms in all its parts-the twenty nine heetares not protected by straw mats equally with the other five hectures; but during blossoming time the bectares with the mats did not shed their blossoms, and they pro duced from thirty to forty pieces-say thirty-five pieces-of two hectolitres each while the twenty-nine heetares without the straw mats gave from ten to twenty pieces only, or in the main fifteen pieces per heetare. The cold during the blossoming time had therefore eaused from fifty to sixty per cent of the grapes to disappear, although six hectares had been protected by pine branches, six by marsh hay, and by straw hung upon the vines. In the neighborhood some viticulturalists had protected their vines by canvas. This also had afforded no protection, and their vintage did not rise above ten, or twenty, or thirty pieces per hectare.

The matters here stated are by no means mere assertions; but they have been proved by frequent visits of committees appointed by the viticulturalists of Rheims and Chalons, and reports of these committees have been published by the engineers Dugne and Beacelin in the Cultivateur de la Champagne for November 1856 and March 1858.

Guyot hardly claims any originality in this matter, for he says he has simply endeavored to cause viticulture to profit by the experience of specialists. He says it is only necessary to open the works of Dubreuil to see the trellises and counter-trellises of Coustant Charmeux at Thomery, and to see the effects of straw mats on the peach cultivation at Montreuil, in order to perceive that he had only profited by their experience and their lessons. In 1858, Charmeux went so far as to cover all his lines of trellis with such straw mats in order to protect them against rain and cold. We can see that a process may be economical for grosser cultivation; yet w have no doubt that if this mode of cultivation were undertaken with all the precautions we have indicated, it would every where effect a great improvement in the product, a saving of labor, and a great increase in the harvest.

MODE IN WHICH THE VINE IS TOUCHED BY EARLY SPRING FROSTS.

Many are the surmises which ignorant persons have formed on this subject, and as the evidence of frost upon the young shoots begin first to show itself when the sun rises, the idea has been most common among them that it was the rising sun which killed the shoots. Of course the sun has nothing to do with it. This any person conversant with physics could demonstrate à priori; but it is well that in matters of this importance there should be distinct experiments to appeal to as evidence. All the lines of the vine-yard of thirty-four hectars which Guyot planted at Sillery in 1850 ran from north to south. In consequence the greater part of his atraw mats, which were then 59,000 metres, opened towards the east, and received the first action of the rising sun. In the night from the 4th to the 5th of May, 1856, and in that from the 6th to the 7th, a frost of three and and four decress struck all the vineyards of the Champagne, and particularly those of

Sillery. On the evening of the 4th Guyot, alarmed at the cold, clear aspect of the sky, had caused 300 metres of straw mas to be got ready, and had given orders that if there should be frost in the night those 300 metres of mats should, before daybreak, be put to the east of vines not otherwise protected. These vines were therefore destined to share all the intemperateness of the night, but not to be struck by the early sun. The instructions were obeyed; the snu rose splendidly, and at ten o'clock in the morning the disaster was evident to all eyea. All the shoots protected by the straw mats against the rising sun had perished, just as well as those which had not been protected at all; and it has been demonstrated that the rising sun had nothing to do with the shrivelling, dying, and browning off of the frosted vine shoots. In the night between the 6th and the 7th the same experience was repeated in other parts of the vine yard, where n number of rows had escaped the first night nuhurt. The sun-shades did not save a single shoot. But, say others, "It is the cold wind that kills the shoots." On the contrary, say we, the cold winds such as blow about this time will never effect the young shoots, unless there be previously deposited moisture on the shoot sufficient to make it defenseless. Now, what causes this deposition of moisture? The radiation of its warmth towards the sky so reduces its temperature that the moisture which rises from the ground is deposited upon it, and then the wind comes and the shoot, which is defenseless against the effects of evaporation, perishes. It is therefore clear that the cold wind alone has no effect upon the shoot, except in the case when the shoot has previously lost heat by radintion, and had moisture deposited upon it. The dry shoot is protected against wind by the fine fur which covers it on all sides, and which to a teleologist might appear to be expressly made for protecting it against frost. Well, then, prevent the radiation from the vine towards the sky by means of straw mats; you thereby prevent your vine from getting so cold that it will deposit moisture, and the wind will then only contribute to keep it all the drier, and insure its preservation rather than its destruction. The vine in clear spring nights dies from radiation, as all the camels died in Bruce's caravan, in the midst of Sahara, under the elearest sky that he ever beheld on his journeys-from radiation of heat into

# CALIFORNIA'S CULTIVATED LAND

The annual meteorological review of the State Agricultural Society gives the following interesting statisties in regard to the land subject to cultivation in California Plain land, 4,000,000; footbills proper, 4,500,000; upper foothills, 4,000,000; mountains between 1,000 and 2,000 feet elevation, 6,000,000, making the total average of the land described 18,500,000 acres. cherry ripens at Vacaville, about twenty miles southwest of Sacramento, and in the foothills of the Sierra, to the east and north, as early as the last of March, the apricot by April 20th and the peach by May 1st. Tomato vines are frequently green and growing the entire winter, and grapes have remained on the vines in palatable condition until late in January. The estimates above given have been recently compiled, and are thought to be as reliable as round numbers can be.

Subscribe for the MERCHANT.

#### VINEYARDS IN SAN BENITO.

In a few years San Benito county will be covered with vineyards, said Mr. J. Bolado a prominent vine grower, to a Hollister Free Lance reporter who spoke to him recently on the subject of vineyard planting in this county. Mr. Bolado states, without fear of contradiction, that the California wines of to-day are equal and in many respects superior to the imported wines that sell at much higher figures. San Benito county is better adapted to-day for viticulture so far as soil and climate are concerned than very many sections of the State that are noted for their extensive vineyards. Mr. Bolado advises every farmer who wants to make money to plant vineyards as soon as possi-The process of wine making is very simple, and if the small vineyardist does not want to manufacture wine himself there will be plenty of demand for his fruit as soon as it ripens. Mr. Bolado states that vines begin to bear in three years, and come into foll bearing in four; that each vine is estimated to produce grapes that will yield half a gallon of wine, or counting 680 vines to the aere, each aere will yield 340 gallons of wine that will sell readily at 35 cents a gallon, or \$119 to the acre. Mr. Bolado planted about 201/2 acres to vines this Sring at a cost, including price of cuttings, of \$18 per acre. The varieties he planted were as follows: Cabernet, 4,000; Pinot, 2,000; Mataro, 2,000; Zinfandel, 2 000; Chasselas, 1,000; Riesling, 1,000; Muscat of Alexandria, I,000; Malbec, I,000, These vines are all doing well and growing rapidly. Mr. Bolado now has a vineyard of 30,000 vines, and will increase its capacity year by year.

## BLESSINGS IN DISGUISE.

The Real Estate Circular, published in this city by Thomas Magee, in the following paragraph illustrates from a practical standpoint the adage, 'tis an ill wind blows no one good.

"All of the advertising and all of the favorable articles and letters ever written about California have not, in adding population to this State, been of as great value as Atlantic blizzards this Winter. They have been a perfect whoop up for California, Nearly every State north of Virginia has had the blizzards, too, this Winter Starting from their natural home in Dakota, Nebraska, Minnesota and Wisconsin, they have traveled nearly everywhere, finally winding up with a roarer of true blizzard wind and snow in New Nork eity itself, where all traffic, whether by locomotive, elevated railroad, horse cars, highwaymen-hackmen or on foot, was alike saspended for fortyeight hours. Every one of these blizzards was a perfect besom of advertising in sweeping people to California. Never was there n hetter illustration of the truth of the proverb, that it is an ill wind that blows nobody good. And, indeed, we honestly believe that these blizzards were a blessinga genuine, an almost unadulterated blessing -to those who were induced by them to pull up old home and badly frozen stakes and come to California. We verily believe that this is the promised land for the working man, no less than for the man of means, It is also our belief that this fact will become more and more plain to the world for the next seven to ten years. Progress such as we have never before dreamed of will, we believe, within that time be made in all departments of human industry all over this coast."

## THE GRAPE VINE HOPPER.

The Vineyardist publishes the following remarks on this insect, which were made by I. A. Lintner to the Mass schusetts State Board of Agriculture, which will be interesting in connection with the researches of of Mr. Wheeley, Chief Viticulture Officer of California on the same subject.

Frequent complaints are made of the damage done to grapevines, from an attack upon their I aves done by "Thrips," This is a popular name—but an incorrect one, as will be shown hereafter-which has obtained wid spread currency among vine growers for some small (about an eighth of an inch long), slender, spindle-shaped, partially colored leaf-hoppers, which are very destructive to the foliage of grapevines. They abound upon the leaves in their three stages of lava, pupa, and perfeet insect, in each of which they are injurious. Their injury to the leaves is caused by puncturing them with their heak or proboseis and feeding upon the sap, They are usually to be found on the under surface of the leaves. The punctures first produce small colored spots, which are multiplied over the surface, and rapidly increase in size by their running together and by the greater sectorial power of the growing insect. Later they become long brown blotches, which, if the insects are numerous, extend over and embrace the entire leaf, causing it to dry, -appearing as if searched by fire, -to die and fall from the vine. As a consequence of this partial defoliation, the fruit is dwarfted and its ripening interfered with, and the death of the vine may follow if the insects have been very numerous. These little creatures belong to the order of HEMIPTHERA, which embraces a large number of our destructive pests, as the plantlice (Aphididae), the scale insects and the mealylugs (Coccidae the grape Phylloxera, etc., all of which subsist only upon liquid food, but fully equal to distructiveness those provided with formidable biting jaws.

Several species of these leaf-hoppers are frequently associated upon the grape leaves. They belong to the genus known as Frythroneuro, and the more common one is that d scribed by Dr. Harris in 1831, as Tettiqunia vilis. It is about one-tenth of an inch long, of a pale yellow or straw color, with two narrow red lines on its head, and scarle: bands upon its thorax and wing-covers. It appears in June, in its larval stage, when it may be found quietly resting upon the leaves, with its beak thrust therein, unless it be disturbed, when it hops briskly to another leaf. They east their skins from time to time, as they increase in size, and numb rs of these white, empty cases may be fastened to the under surface of the foliage or scattered on the ground beneath. In July they assume pupal form, In August they mature and acquire wings; when, if the vines are shaken, they may be driven up in awarms, but only to return and resume their destructive work. The winged insects survive the winter, libernating among the dead leaves or in other sequestered places. The following apring, in the month of May, it comes forth from its retreat, and deposits its eggs upon the leaves of the vinea for another brood.

The Thrip proper is an entirely different insect. It is a smaller jusect than the grapevine leaf-hopper, with long and nurrow wings, without veins, and bordered hopper' is more abundant within the with long fringes—the two pairs of about shelter of graperies than elsewhere, still, in equal size. There are a number of species favorable seasons and certain localities, it row wings, without veins, and bordered

united in the family of Thripidae, the location of which, in our classification, has been the occasion of much discussion and is still in doubt. By Halliday it was set apart in a distinct order, under the name of THYANOPMERA; and this arrangement has been accepted by many automologists. Dr. Packard and others regard it as properly placed among the HEMIPTERA, to some of the families of which it seems to have a close affinity. Their habits vary greatly; for while many of the species are unquestionably vegetable feeders, and injurious in their operations, others, from their carnivorous propensities, are serviceable in their distruction of gall-insects, the eggs of the curenlio, the red spider Tetranychus telarius the clover-seed midge (Cecudomyta leguminicola) the wheat midge (Diplosistritivi), and other insect pests.

The method commonly restored to for the prevention of the ravages of the socalled "Thrips" in graperies, has been fumigated with burned tobacco. This has proved to be partially successful. A still better method has been for some time employed in France, but not to my knowledge to any extent in this country. One who has thoroughly tested it bears this testimany to its efficacy: "Ever since I adopted it, it has been absolutely impossible to find a "thrips" in my houses, and other insects have likewise disappeared. the following method of use is given: -

Every week, whether there are insects or not, I have a number of braziers containing burning charcoal distributed through my house. On each brazier is placed an old saucepan containing about a pint of tobacco juice of the strength of 14 degrees. This is quickly vaporized, and the atmosphere of the house is saturated with the nicotineladen vapor, which becomes condensed on everything with which it comes in contact. When the contents of the saucepan are reduced to the consistency of thick sirup, about a paut of water is added to each, and the vaporization goes on as before. I consider a pint of tobacco juice sufficient for a house of about 2,000 cabic feet. The smell is not so unpleasant as that from fumigation, and tobacco juice can be used more conveniently than the leaves.

When the operation is completed, if the tongue is applied to a leaf one can easily understand what has taken place, from the very perceptable taste of tobacco.

The process requires lo be repeated in proportion to the extent to which a house is infested. Such troublesome guesta are not to be quite exterminated by a single operation. A new brood may be hatched on the following day, or some may not have been reached on the first day, so that the vaporization be frequently carried on, until the insects have entirely disappeared, and after that it should be repeated every week in order to prevent a fresh invasion.

The tobacco juice of the proper strength is purchasable at the tobacco factories in France for about fifteen ceuts (of our money) a quart. Ita expense, at this rate, would be but about twenty-five cents a week for a grapery of about fifty feet by sixteen and ten.

A strong infusion of tobacco leaves, made by boiling, would be a substitute for the above. It might be prepared in quantity and evaporated to the proper degree, for convenience of keeping and for ready use.

Although the so-called thrips-it might properly be designated the "grapevine leaf-

is a great pest in vineyards, where it is less amenable to remedial measures. Larly in the season, while yet in its larval stage, benefit has been derived from showering thlower surface of the leaves with an infusion of tobacco or soapsuds, or of both combined. A still more effectual application should be spraying with an emulsion of kerosene oil and common soap, made after the formulas given for its preparation, and distributed in a mistlike spray by means of a cyclone or Nixon nozzle

Another method has been used for destroying this insect, with good results, it is stated. A long strip of building-paper is smered with coal-tar on one side, and stret hed between the rows, when, with a brush, the insecta are driven up from the vines against the sticky surface, to which they adhere. Tho men and a boy can go over a vineyard in this manner in a short time, and a few repetitions will nearly exterminate them.

A correspondent in Middlehope, Orange Co., N. Y., to whom the above remedy was suggested as perhaps the best way of meeting the myriads of the insects which were infesting his vines in larger numbers than ever before, subsequently wrote me that he had followed the recommendation, and that it had operated very successfully.

Of course this method will only prove effective late in the season when the insect has acquired its wings.

#### PRINTING IN CHINA.

A correspondent of the North China Daily News of Shanghai, describes a printing establishment which he found in a village in the interior, about 150 miles from Shang hai. The printing was being temporarily carried on in the village temple, and movable type only was used. In the large central hall of the temple were placed about twenty ordinary square tables, on which the eases of type were spread out, very much after the Eoglish method. At the time of the visit one man was engaged in setting up type, another was printing. The former stood before a table, on which was what may be called a Chinese "case." It was a solid block of hard wood, about 22 in. long by 15 in. broad, and perhaps 3 in. deep. The inside was hollowed out to a depth of about a quarter of an iuch, this depression being still further hollowed out into grooves, about three-quarters of an inch deep. The block had twenty-nine of these grooves, each filled to the depth of a quarter of an inch with ordinary stiff clay. With his copy before him, armed with a small pair of iron pincers, the compositor began his work: character after character was transferred from the case and firmly pressed into the clay When the "form" was complete, a flat board was placed on the top and the characters pressed perfectly even and level with the aurface of the wooden block, the edge of which was cut to form the border generally found round every Chinese page The printer now received the form and carefully brushed his ink over the type. Taking a sheet of paper, he pressed it down all over the form so that it might be brought in contact with every character. Ife then removed the sheet, and examined each character, carefully adjusting those which were not quite straight with the pincers, and apparently never touching the type with his fingers. The type in the form was of three siz s, each character being kept in place entirely by the clay in which it stood.

that the art of printing in this way had been hand d down in the sam family since the Sung dynasty, more than 600 years ago, No strangers were ever taught, apprentices being always taken from the same clan. They were op a to take any work at the rate of about a shilling a day which included the two men, typ and ink, but not paper. They wer then printing family registers The custom in that part of the country is to hire the print rs, who bring their type and set up their printing establishment on the

### A LARGE STORE-HOUSE.

Architects are drawing up the plans and specifications for an immense wine storehouse, which will be constructed about a mile out of the town of St. Helena, Napa County, by William B. Bourne of this city.

This store-house, which will be the largest of the kind in the world, will be 400 feet in length by 771; feet wide, and three stories high, surmounted by a tower which will reach 100 feet above the ground. The capacity of the store-house will be something over 2,000,000 gallous, and its cost about \$300,000. The main body of the building is to be constructed of concret and the gray stone characteristic of the neighborhood, while the trimmings will be of handsome red stone. At the front of the building will be a projection about 50 feet wide and 20 feet deep, the first story of which will contain the offices, ante-rooms and engine department, and will be topped by a tower. This portion of the edifice is to be handsemely ornunated with red stone carvings and stucco work. The second story of the projection will be fitted up into a complete laboratory. Slate plates will cover the roof of the building, and the Romanesque style of architecture has been decided upon. It will present a simple but hold appearance. The second story of the building is to be constructed of ec nerete and iron and will be very strong. The facilities for the transportation of wine from one portion of the building to another are to be complete, and a powerful elevator will bo constructed in the center.

At the rear of the builling, running into the hill, at the foot of which the store-house is to be constructed, will be day thirteen tunnels, each 200 feet in length, in which to store wine. At the rear, at the level of tho first story, a driveway 11 feet wide will be built and a other of the same width at the level of the second story, supported by concrete arches.

A railroad track will pass all along the front of the store-house for the purpose of shipping and receiving wine. It is the design of the owner to build a distillery on the hill back of the store-house as soon as the latter is finished. It is anticipated that one of the wings of the store-house will bo finished during this year.

The manufacture of orange wine is becoming an established industry in Plorida. The factory of Cary Springs has just cl s 1 its season, having made 1,000 barrels. For this quantity 1,500,000 oranges were pressed. The price paid for oranges d livered at the factory was \$8 a thousand.

THE FOUR Assistant Commissioners to the Melbourne Exposition will be 1. B. Wheeler of N w York, L. R. Miller of Lynchburg, Va., Mr Stevens of Boston, and Mr. Kerr They were cut out of some hard wood, and ble of New Orleans The Chi f Commiswere perfectly square. The writer was told sioner is Frank McC ppin of S n Francisco.

# THE DESTRUCTION OF ANIMAL AND VEGETABLE PARASITES OF THE VINE.

#### RECOMMENDATIONS BY THE CHIEF EXECUTIVE OFFICER OF THE STATE VITICULTURAL COMMISSIONERS.

A Resume of Rules and Remedies
Adopted to the Present Season.

The present bing the season of greatest activity in the operation of combatting vineyard pests and diseases, many of which appear so suddenly in some of our vineyards as to leave no time for the proprietor to waste in looking up the results of former experiments or remedies described in some last paper or publication. It has seemed a fitting time to publish a brief abatract or summary of the principal remediea abroad at the present moment, tocether with the best known means of destroying them.

#### CDT-WORMS

May, if few in number, be found at night with the aid of a lantern when they are preying on the leaves or young shoots. Another method is to dig them out of their hiding places near the roots of the infested plant in the day time, us they retreat with the disappearance of daylight just below the surface of the ground.

If in sufficient numbers to warrant, spray the vine with a solution of Paris green (which must be agitated continnously while using to prevent settling), one pound to 150 gallons of water. This will not barm the fruit or plant, even though the grapes have attained half the size of a pea. If it is feared that fivestock may get to the foliage and thereby become poisoned; apply the same solution to cabbage leaves which if placed near the troubled vines will attract the attention of cut worms and destroy them. Afterwards these cabbage leaves may be picked up and destroyed, or left to wither without danger.

To apply the Paris green solution use any good spray pump, or even a syringe will answer for operations on a small acale.

## SPHYNX MOTH OR ARMY WORM

As sometimes improperly called. Spray with Paris green as above, using one pound to 150 gallona of water. Treat particularly well the outside rows of the vineyard and they will never get further than these. If only a few infest the vines they may be hunted on the foliage and destroyed by

#### GRASSHOPPERS.

This plague has been successfully met by the use of arsenic and bran remedy, prepared as follows:

Forty pounds bran, 15 pounds middlings, 2 gallons cheap syrup, 20 pounds aresenic, mixed soft with water; a tablespoonful thrown by the side of each vine or tree; cost per acre for trees, 25 cents, for vines, 50 cents.

If placed on ahingles about the vineyards much of the poison may be afterwards gathered up and saved.

Complete success has resulted from the nee of this remedy, as the grasshoppers est it greedily and die in their tracks

For this may be substituted with equal effect the Paris green spray, applied as for cut worms.

cylinders framed with band iron and covered with window ganze, these hinged together on one side should be provided each with a semi-circular pan for a bottom, ao arranged that the whole may be closed about the vine. Rub the gauze over with a rag saturated with coal oil and place a litte also in the pan at the bottom, then when the whole is closed about the plant kick the stump of the vine or disturb the foliage by introducing the hand or a stick from the top, and the insects fly to the gauze where contact with the coal oil destroys them. For full particulars regarding the construction of and method of operating this trap, see second appendix to Report of Chief Executive Officer for 1888.

Thripe cannot be paisoned on the vine as they subsist on the sap alone which is sucked from the leaves, thus causing them to wither and dry up.

#### THE FLEA BEATLE

And others of this class which consume the foliage of the plant, giving to the leaves a riddled appearance, may be trapped also with the above named contrivance, for commonly any slight disturbance causes them to drop to the ground where they secrete themselves.

A better method, however, where circumstances will permit, is to spray the vines with the Paris green solution described

#### THE FALSE CHINCH BUG

Is of a grayish-brown color with pupa of about the same color. Both are when full grown about one-eighth of an inch in length. They appear occasionally in spots in the vineyard, infesting such vines in great numbers and consuming the leaves. They fall to the ground when the vine is disturbed, where they are scarcely visible. They have caused our vineyardists no serions damage as they disappear after a short aeason, and have not at any time in the past become general. They may be easily caught with the ganze trap and kerosene, or may be poisoned by the Paris green

#### HARES, BABBITS AND SUIRRELS

Have been a constant menace to young plantations made in new districts. A tight fence affords the most perfect immunity from their attacks. Squirrels may be kept out by making a tight fence along the side of their approach. They will not travel far to go around this, unless the place is very much isolated, because of their fear of dogs, hawks and other natural enemies.

Hares which come a long way to devour the vines will be noticed to confine their attacks to a few vines at different places in the vineyard which they cat down as regularly as the new growth appears. A weak solntion of asafoetidy prepared by dissolving in alcohol and then adding water, have been applied to the afflicted vines with good success.

These animals will also be destroyed by the Paris green solution if applied frequently during the early growing season. VEGETABLE PARASITES-OIDIUM OF POWDERY

## MILDEW

May be best prevented or removed by using sulphur which should be applied. First when the vine is in tull bloom, being careful to dust or blow it well over the flowers. Repeat the dose about the middle of June, and later again if any sign of the disease appears.

If for table grapes, the sulphuring may be continued monthly until they begin to Are best trapped by means of two semi-change color. Sulphuring should, how-ling worthily followed up in California vine-

the berry has attained two-thirds its full growth, as by so doing it reaches the wine and gives it a had odor.

Let it be remembered that the disease be gins its development where the average of day and night runs up to 52° F.; it spreads rapidly at 70° F., and 'is checked in its growth where the thermometer indicates near 100° F. Above 100° its damage is rapidly diminished, and at 1120-a temperature quite common throughout the interior vineyard districts of California-the germs loose their vitality and the effects of the disease entirely cease.

The sulphur used may be either finely ground or sublimed, the former is most commonly employed as it is cheaper and answers the purpose equally well. should be applied so as to lodge as mucl as possible on and near the growing parts of the vine. This secures a dense sulphuvapor in direct contact with the diseased organs. Sulphur on the old atump, or ever on the surface of the ground will destroy the odium, but a larger quantity would be required.

#### COULURE

Though not itself a direct disease results from other evils. It is, in a measure, prevented by sulphuring at the time of blosoming, when oidium which would other wise interfere with the fertilization of the flower, is removed. This is not always s cure, however, as other causes exist for the evil, principally sudden changes in weather, either hot and dry or cool.

The most successful treatment for the trouble when so occasioned results in pincage, the process of pincing off the ends of the fruit bearing shoots when flourings begin. Also, the annular incision may be adopted, which consists in ringing ont with an appropriate tool a band on the outer bark on the fruit bearing cane or shoot just below the point where the bunch stem joins the shoot. Nipping off the end of the long bunches will also aid in keeping the remaining fruit on: and cause it to ripen large and full.

The foregoing disposes of those enemies most common to our vineyards in the past. with the exception of the phylloxera, which though most formidable of all, has been discoursed on at sufficient length before.

J. H. WHEELER. Chief Executive Viticultural Officer.

# CALIFORNIA WINES.

F. Pohndorff, writing in Bonfort's on the subject of our California wines, says: There were tested at the late California State Viticultural Convention in San Francisco, 394 samples of wine.

Although a member of the committee for the examination of white wines, the writer could give only two mornings of his time to that task; but he had opportunities of obtaining some impressions from the wines generally.

These impressions were a confirmation of his belief in the constant improvement of California growths. Without a good raw material no product of merit can be manufactured. Thus it is that the varieties of vines in California vineyards generally are to-day of so much higher grade then they were but five or six years ago, when the bulk of the vineyard stock was still the Mission plant, that by comparison the old wines would appear to hail from quite a different region.

The models of old world growths are be-

ever, never he done to wine grapes after yards and c. llars. The investigation in high class vines from Europe prove remnnerative. In a few years our selfars will contain matured wines made from their fruit, and these wines will justify the hone that even middle grades of good exotic stiginals can be matched by our home products.

> As regards varieties from which wines of good standards are now obtained, we find the Rieslings, Traminer and Gutedel (Chase selas), the Sauternes varieties, and the Spanish Palomino and the Portuguese Boal well adapted for the different types of white wines. As to red wines, the excellence of some grown in favored localities where the Zinfandel is reliable, reconcilea to that variety those who judged of the great bulk of it as rather ordinary. Several matches of other grapes with the Zinfandel are progressive successes. The Cubernets, Merlat. Verdot and Malbeck, of Bordelais origin, tre really grand adaptions in California vineyards. Beclan, Crabb's Black Burandy, Tannat, Tronsseau, Carignan, Monleuse and Syrrah, are worthy acclimatizaions that will do much towards elevating he California clarets high above the past and present level of the ordinary (and in uany cases, frightfully ordinary) trade

Palomino, Boal, West's Prolific, and one ir two others, confirm their supposed usefolness for sherry character wines, and two or three of the Muscat family yield creditable liqueur wines, for which however, some age and maturity is as indisputable requirement, just as only the best rectified grape spirit should be the fortified medium in Tokay and Muscatel wines. For post, Crabb's Black Burgandy, according to the writer's judgment, is one of the safest and most salutary grapes. Faded color in ports only two or three years old, is a defect; freshness, fine astringency and moderate: lusciousness, with generosity of its etherousexpression, must accompany a good ruby tint in a port a few years old. The grape mentioned fulfils all these conditions in a port better than any others used for the purpose.

The best brandies of some age submitted to the test were distilled by G. Weat, H. W. Crabb, and the Napa Vailey Wine Co. These brandies owe the valuable qualities which gained for them in testing such high and well deserved appreciation, to the good grape varieties that furnish the wines from which they are distilled. West's Prolific. Folle Blanche, and some other light white varieties will produce brandies of high quality, brought out after being mellowed. by age. The difficulty is in their preservation. Very little high class brandy can asyet be made, as demand for it is so large as to prevent their attaining any great age.

THE Western Broker says: The most valuable vineyards in France occupy land. which in England or in the United States would be considered almost worthless. The soil is thin, sandy and pebbly, and sometimes exposed to drought, yet the vines flourish upon it to such an extent, that the land is worth from five hundred to three thousand dollars an acre. An effort is to be made to ascertain the scientific reasons why vines flourishes so thriftily on such soil in France, with a view of uscertaining if land of similar quality in this country, which is now comparatively worthless, cannot be made correspondingly productive and valuable.

Subscribe for THE MERCHANT.

vines or on the ground, would spread the

disease when favorable conditions arrived

Prof. F. Lawson Scribner of the Agricul-

tural Department, who has made these mat-

ters a special study, spoke on them at the

annual meeting of the New Jersey State

Horticultural Society in December last.

He stated that he found the mature or

Physalospora form of the figures of the

black rot in the fallen berries of the last

year's crop, while at Vinciand. From evi-

dence gathered there and in California, he

is of the opinion that the Grape-leaf spot

disease (Phyllosticia labruscor) is identical

with Phoma Unicola, or black rot. The

appearance of the disease upon the leaves

usually precedes by about two weeks that

upon the fruit. In regard to the vitality

of the spores of this black rot, he stated

that he gathered some herries June 14th

that had been destroyed by black rot the

year pr-vious, and kept them through the

summer in a cigar box. Just before the meeting he moistened them and in twenty-

four hours he found the spores were germin

ating in great numbers, showing they had retained their vitality for a year and a half.

According to these statements, the time for preventive applications is when the first indications of disease appear on the leaf. It remains for our scientists yet to

tell us at what period an I under what cir-cumstances the disease most flourishes and

such a period under favorable circumstan

there can be but little doubt. We hope our grape growers will be watchful the

coming season and let us hear the result of

probably warm and moist weather, te can be but little doubt. We hope

preads on adjacent vines.

their obs rvations

#### THE BLACK ROT

In a recent issue of the Country Gentleman is a communication from Mr. Hendricks of Ulster county on grape rot, which we copy as follows:

In response to your requests for the facts and information bearing upon the existence and spread of the black rot of the grape in the Hudson River valley, I may say that there seems to be no imminent danger from this distructive disease in this region as v.t Recent statements to the contrary which have appeared in a few of the River papers were entirely new to many grape growers, and I am unable to verify such reports, either by their evidence or from my own observation

Mr. A. J. Caywood, the veteran grape hybridizer and grower of Marlboro, who is, perhaps, one of the most intelligent and observant grape men in this region, says that there was no rot noticeable in this section last year: "We had quite an attack of it three years ago, but very little the last two years, and less last year than the year before." His belief is that the grape rot is not contagious, and he cites this decrease of the malady here spoken of in proof. He has tried in every way to innoculate sound grapes with the disease, pricking it in with needles, and saturating whole clusters with mashed rollen grapes, but never succeeded in imparting the disease in a single instance. He thinks that like the pear blight, the true cause of this disease is not yet fully understood.

I cannot learn that any preventive measures have so far been taken in this region. The damage being so slight from the rot, and the disease being on the decrease apparently here, little alarm is felt.

Mr. Caywood thinks some varieties are almost exempt from the attack of this fungus. But where the disease prevails extensively I am inclined to think that few varieties will escape. He regards Concords as among those least liable to damage from this rot. Three years ago, when the rot was the worst here, some fifty varieties enffered considerably, while the Concord was only very slightly effected. The fact that Concord, more than all other grapes put together, is grown along the river, probably led to the statement that this variety seemed most susceptible to the black rot, as it would thus be noticed more in that variety.

Whether this disease be contagious or not it would seem that wherever it is found to prevail to any extent the vineyardist would be wise to adopt precautionary measures promptly and presistently. Gather and burn or destroy all rotten grapes, fallen leaves and trimmings. Bun no risks with the "winter spores" of Phoma, Uncinula or any other species of the infamous mycologic brood. It would not do to compost this stuff-that only facilitates the disease burn it. That the attack is upon the surface of the fruit seems clear from the fact that bagging prevents the rot.

Communicating on this the Orange County Farmer says. The advice given by Mr. Hendricks is othodox and should be carried out faithfully by every grape grower. "Gather and burn all rotten grapes and leaves" that is the only prodent course. Mr. Caywood is possibly correct in his view that the black rot is not contagious, but his opinion is apt to be misleading and result in danger. While it may be and doubtless s true that the disease may not be communicable by contact in the manner discribed, we think it equally true that the infected grapes, if allowed to remain on the

PURE WINE VS. ALCOHOL.

A fair-sized audience greeted Mrs. Dr. Potts at Irving Hall this week. The gift d Quakeress briedy described the various or. gans of digestion and the function of each. She spoke of the injurious effects of alcoholic drinks. "It is alcohol," she said, 'which stimulates and which creates a desire for fermented liquors. The man who drinks or has been on a spree craves water on the following morning, because the alcohol has precipitated the pepsin from the gastric juice of the atomach and the water. to a certain extent, redissolves it. Alcohol coagulates or thickens the albumen of the blood and this clogs the circulation at its weakest points, hence the red nose of the drunkard. Alcohol irritates, indames and finally nicerates the stomach, and the great sympathetic nerve which governs the stomach is similarly diseased and it communicates the effect to the brain and delirium tremens ensues." She declared Germany to be the most temperate country she had visited. The temperance there is due to the national beverage (beer), which contains the smallest percentage of alcohol.

The United States is next in order, and the people of California are the most temperate, because, as the speaker said, of the pure wines consumed here

The lecture was a scholarly effort, marked by occasional dights of eloquence and pointed anecdotes. Mrs. Potts lectures to women this afternoon and to men and women to-night.

#### THE RIBLE ON PROHIBITION

The Rev. I. R. Sykes of Ohio, has written a book in which he introduc a some biblical arguments calculated to disturb the rest of an ardent prohibinonist. The author has taken a bold stand in favor of a temperate use of fermented or alcoholic beverages, especially wines. Showing from biblical authority, ander both the old and new dispentions, that the use of wine not only sanctioned but even commanded by God himself, who gave man the wine as one of his most bounteous gifts; that even the great tomple in Jerusalem was greatly indebted in its construction to the traffic in wine, notwithstanding which, his presence was visibly manifested in the Holy of Holies; whilst in the services, connected with His worship in this temple, an enormous quantity of wine was employed at the direct command of the Almighty, and for this purpose there was enough of the precious beverage stored within the precincts, to have made a modern wine merchant envious of such a stock, Whilst under the new dispensation the Saviour and his followers used, and sanetioned its use; and from b ginning to end of the sacred scriptures there is nothing condemnatory of the moderate use of wine.

The author charges those with dietating the Creator what he should have done and what he should have left undone, who try to prove from the bible that prohibition orized, and demonstrates the ruling of modern prohibitionists, the Redeemer himself wuld not have been digible to church membership in a modern

Christian organization.

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Mustard Seed					4			1,400
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vid Fish	55,556						171 1 14	44 444
Oil, Whale								
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Powder	3,280	20,700			11,500			
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## Country Board Wanted.

A family in the city desiring to spend a few weeks in the country wish to find accommodations with some private family on a farm, within easy distance of a line of railroad. Address X, this office stating location, terms, etc.

GOVERNOR WATERMAN, for some reason best known to himself or his man Friday saw fit lately in his good pleasure to alter the complexion of the Viticultural Commission. Mr. Haraszthy was removed from the presidency, an office which he has filled to the satisfaction of the largebody of viticulturalists in the State for over twelve years, M. M. Estee being appointed in his place. The latter gentleman, for reasons which it is said are not altogether favorable to some of the future political aspirations of the Waterman-Boruck, or Boruck-Waterman syndicate, declines the honor. Here the matter rests, and, although over two weeks have past since the Governor has been notified to that effect, and in face of the publicly expressed desire of all those most directly connected with this important industry to reconfirm Mr. Haraszthy in a position for which he is so admirably adapted. No notice is taken of the matter. If all the other business of the administration is managed in the same slip-shod manner, the sooner a new prime minister is chosen the better. What between standng off Examiner reporters at the Capitol and engineering libel suits against the press in the different counties of the State, the present incombent seems to be fully occupied, without shouldering the responsibility of the cares of State. The viticulturalists are not altogether an unimportant faction in politica and for this reason alone, if none other, it would seem judicious to respect their demands in at least one instance, especially as election times are close at hand.

GLUCOSE can be detected in sugar by putting a large apoonfol into a glass of cold water. Stir it a few moments, and you can see that the cane sugar is entirely dissolved, leaving the glucose undissolved at the bottom of the glass, in the form of a white. aticky anbstance, not nolike starch in looks. and bitter to the taste. It won't do to use hot water in your test, however, for if you do the whole thing will dissoive.

THE REPORT of Arpsd Haraszthy, the President of the Viticultural Commission of California, which appears in this issue of the Meachant, is replete with valuable information on matters pertaining to the industry, and reflects great credit on the author, who has spared neither time nor labor in collecting and verifying the facts and figures therein presented.

Opening with a synopsis of the creation and early history of the commission, the report goes on to som up its valuable labors in the way of distributing information on the fermentation of wipes and care of same, distillation, and suggestions as to the appropriate variety of vines in different lucalities, with respect to a larger production of high-grade wines. It recounts the numerous observations upon Phylloxers, suggestions as to the best methods of treatment, and the use of insecticides, and remedies and preventatives against oidium Peronospera, and other fungied diseases of the vine.

Considerable space is given to the proper method of curing raisins, drainage, vine fertilizers and the selection of proper varieties of grapes for table use, not omitting the legislative precautions which have time and again been taken for the protections of the purity of wines and brandies.

One of the most appreciable features of this valuable report is the tabulated statements of exports, by sea and land, of wine and brandies from California to Atlantic States and foreign countries, with values attached from 1875 to 1887, inclusive.

The present and future outlook of the industry is finally taken up, with estimates of the present area of vineyards and the value of their products within the last three years.

Other information following, regarding the literature on the vine and its products. which from time to time the Commission has collected for the general benefit of all connected with the industry.

The report, from beginning to end, reflect ardoons and painstaking labor, and it will undoubtedly be fully appreciated by our viticulturalists as a valuable reference, the more especially so when it is remembered that the service rendered by Mr. voluntary.

THE SUSPENSION of the firm of Wm. T. Coleman & Co., announced this week, must be regarded in the tight of a public calam-The head of the firm has been so intimately connected with the fortunes of the State, from its infancy, that his misfortune at this late day in a career of honorable business activity strikes a sympathetic chord in the breast of every Californian. His was not a fortune built up by robbing the community, in catering to the taste for gambling ventures, which has been at all times, as to-day, a marked characteristic of our people. His wealth grew as the State developed, under the progressive business policy pursued by a few enterprising men of whom he was always in the lead. he adopted a more conservative course: believed less in the unlimited possibilities to be attained in opening up the vast intenal resources of California, there might have been fewer evidences of his work to be found in the reputation gained for our products in the leading markets of the world but the firm, dating back to '49, would still pursue the mediocre pathway in the business world outlined by the modern merchant, on the principle it is better to stand still plication to the accretary.

than to go back. The grit and push which pulled the State through the dark days is rapidly dying out. One by one the old commercial houses, built up and carried on in the same spirit of enterprise, fall by the wayside. Brauching out to-day in the basiness world means brain fever or loss of credit at the bankers.

It was a serious mistake to allow this firm to suspend. There is no doubt that all trouble could have been tided over by au extension of time. The assets are large in comparison with the indebtedness; large enough to have auggested some judicious action on the part of creditors which might have saved this mercantile community from a shock, the effects of which may yet have to be encountered.

While it is not definits at present that the business will be continued, there is this certainty, that the creditors of Wm. T. Coleman will receive dollar for dollar.

THE INCONSISTINCY of the average Prohibitionist is strikingly illustrated by the fol lowing story which finds its way northware from the little burg named Riverside, th. inhabitants of which are so strongly epposed to wines, that the unfortunate traveling public are compelled to refresh themselve: with the alkali water peculiar to the districor die of thirst. It appears, however, that these good people find grapa growing a profitable investment. Only for raisin making of course. Last year, however, a larger crop was gathered than could be handled in the driers, and none of the saints could be prevailed upon to try the experiment of facing the market with a sun-dried brand. The upshot of the business was that an offer from a firm of wine-makers was accepted for the surplus crop, and the innocuous muscats were carted off at paving rates to spread distruction amongst the neighboring towns in the form of alcoholic stimulants. Consistency is evidently a scarce jewel among the people of moral Riverside.

CHIEF EXECUTIVE OFFICES WHEELER OF the State Viticultural Commission has issued a pamphlet, the full text of which appears in this issue of the MESCHANT. It desla with the destruction of the animal and vegets-Haraszthy is, for the greater part, purely ble parasites of the vine, which at this sesson of the year are a constant source of annoyance to the vineyardist. The timely suggestions now made by Mr. Wheeler will prove of much service in case of trouble, saving as it will by a ready reference, much valuable time, where delay in action is absolutely dangerous With a copy of these recommendations and remedies at hand, the vinegrower is fully armed to protect himself, without the dissgreeable necessity of hanting up the results of former experiments, in the hour of trouble.

> THE OFFICIAL approuncement is made that the Twenty-third Industrial Exposition of the Mechanics's Institue will open in the building bounded by Larkin, Hayes, Polk and Grove streets on Tuesday, August 7th, and will close on Saturday, September 15th. It is the intention of the management to make every effort to surpass the results of previous years, and the prosperity which is promised throughout the State during the summer months will nudoubtedly aid them in attaining the desired end. The Rules and Regulations governing the exposition and Premium List and applications for space will soon be ready and can be had on ap-

#### CALIFORNIA BAISINS.

California has of late years, says the Sacramento Bee, become a great rival of European constries in the production of dried fruits, and the domestic article is considered by good judges to be quite equal, if not superior, to the imported product. The raisin-producing industry of the Pacific coast is assuming enormous proportions. There are hooses in San Francisco and other points that do an immense business of millions of dollars in that line of trade. The grapes used for raisins are the White Muscat. They are propagated by millions of slips, which are set out in what appears to be a barren plain. In two or three years the small slip grows so rapidly as to increase to the size of an ordinary man's arm and be able to support itself. The branchea shoot out on all sides and big bunches of grapes hang underneath. These are gathered when sufficiently ripe and placed on trays several feet square and of shallow depth, which are allowed to remain in the san for several days. When one side is horoughly dried the grapes are turned and ie other side allowed to care. It takes aearly a month to prepare them for the marcet. After going through what is the cooling house they are packed in boxes in what is known as the Loudon Layer style. The business is increasing from 6,000 boxes in 1873 to nearly 1,000,000 boxes in 1887. The industry is claimed to be even now in its infancy, and that in the next ten years we may expect to see a wonderful development in the dried fruit business of the Facific coast. There is no reason why California is not large enough and productive enough to supply the whole world with goods of the finest quality.

The United States imports annually sbout 60,000,000 pounds of prunes, 7,000,000 pounds of figs, 53,000,000 pounds of raisins, 5,000,000 of almonds, 18,000 car-loads of oranges and temous, 250 carloads of preserved fruits, 250 car-loads of olive oil, and 650 car-loads of other fruits. This vast amount of imported froit can be replaced by this State alone, to say nothing of the enormous quantities of other fruits judigenous to this country which it can also produce. It was only a few years ago that foreign grapes were brought to Los Augeles for winter use, and now, instead of sending to Europe, we can raise far better grapes, and can supply the demand of the United States, and then have a surplus for the consamers in other lands. Last year we sent 2,500 car-loads of fruit to the Esst, and this year the shipment will, in all probability, run well up to 5,000 car-loads. For some of our caqued fruit, as dried, we have the world for a market, and our apples are sent to Australia, Chira and Japan. It is only a question of a very short time when the \$20,000,000 psid annually for imported fruits will be expended for the California products of vastly superior quality.

Bonfort's Circular notes that Mesars. Pohndorff & Co. have made a success in Washington, D. C., and their small beginning of two years ago has grown into large, handsome cellars of California wines and a trade they can hardly supply. Enterprise and plack are winning cards.

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THE DEATH is announced of the Marquis de Riscal, one of the hest known vine growers of Europe. He has been for some time previous to his death a resident of Bordeanx.

#### SPURIOUS CHAMPAGNES.

An interesting legal decision enacted in France concerning champagne wines, has just been advertised in New York. matter is one, remarks the Western Broker, likely to concern the American wine trade and particularly the California trade which puts up American champagne, so called The decision is, as announced by the court of appeals of Augers, France, that no wines are to be labeled and designated as champagne which are not made to the full of grapes grown in the Champagne district. The snit in which this decree was reached was brought by a syndicate of wine growers themselves in the Champagne district, and the same wine growers, or their representatives, are about to institute similar proceedings in the United States as well as in France and other countries, against mann. facturers who apply the name champagne to the wines not produced from the Champague country's grapes. The suit having been brought against a Saumur merchant, Jules Lecluse, for the employment of de. ceptive labels. Lecluse was not only enjoined from the use of the name champagne on wines not wholly made in that district on penalty of 100 francs for each violation. but he was compelled to publish the sentence 100 times by placard and twenty-five times by newspaper, and this advertisement has just appeared in the New York Herald Mumm, as represented by his Rheims partner, De Bury, is one of the prosecuting members of the syndicate. There are eight or ten other prosecutors, and they are all wine merchants to whom the restrictions must apply, as well as to their rivals. Americans have been cheated so often that they take it for granted that all wine manufacturers are in the same boat as to the labeling and description of spurious wines, which this advertisement would seem to contradict. Each wine dealer can be compelled under this decision by some other wine dealer to abide by the decree, and there is so much rivalry that the chances for collasion are proportionately small.

The labeling of spurious wines in the past, and especially of champagne, has become, of course, an old story. Hereafter, if it is clearly known that any wine called champagne is put np and labeled in France, the chance is that it will be genuine. At least on French territory the quality must be known. The genuineness in America of what is called champagne depends on the character and the knowledge of the importers and the retail sellers. Champagne, it is said, has medicinal value, and for this apart from its interest to the wealthy, the matter of its purity has some importance. The prosecution of suits against the American appropriation of the name, if successful, will greatly reduce the amount of sparkling wine sold under that title.

An extensive dealer in New York made some statements from the wine growers' point of view on the subject of champagnes, which may be interesting. He said: "The high grade champagne merchants are not at all indifferent from everything except the profits of the business. The wine of the province of Champagne is a special point of pride with them, and in the production of it the larger merchants are an aristocracy which considers itself the aristocracy of the whole commerce of France. They are the merchant princes, and the producers of the Champagne district are the most exclusive and haughty of the number of wine producers, where all wine producers think highly of their calling. There can be manu- Hutchinson,

factured by artificial process wine which chemically analyzed is identical with champagne, but the final bouquet, the flavor which makes champagne what it is, is lacking, as all connoisseurs perceive at once, and it is the effort and pride of the characteristic wine grower to maintain the general standard. It is their own seeking, as you see, that nothing is to be recognized as champagne that is made elsewhere, or made in Champagne from other grapes. 'The amount of grapes that they consider neces sary to produce it is 100 per cent of the Champagne grape. There is something peculiar in that soil, and it is certain that its grapes produce wines of bouquet lacking to the vintages of all other soils.

One of the large houses exported to America between the years 1880 and 1888 over 500,000 cases of champagne. The entire stock of which this represents the export only is four times the amount of one years product. In these wine vaults a year's reserve is kept to cover poor vintage, which is always liable to occur. In 1879 for instance, there was no champagne product whatever. The stock is held in the cellars, and millious of capital are thus tied up with it.

The fermentation of natural champagne is in bottles and takes three years. The cellorages are cut out of natural chalk of Champagne, the soil there being all chalk which is supposed to supply the occult properties necessary to the individuality of the champagne wine.

# CHEMICAL COMPOSITION OF THE GRAPE.

It has been established by the most careful analysis that the chemical composition of good and well-ripened grapes, is, in a thousand parts, as follows:

FRUIT—Water, 830; nitrogen, 1.7; ash, 8.8; potash, 5.0; sodn, 0.1; magnesia, 0.3; phosphoric acid, 1.1; sulphuric acid, 0.5; chlorine, 0.1; silicie acid, 0.3.

SEEDS—Water, 110; nitrogen, 19.0; ash, 22.7; potash, 6.9; sodu, 0.5; magnesia, 1 4; phosphoric acid, 7.0; sulphuric acid, 0.8; chlorine, 0.1; silicic acid, 0, 2.

The eight decimals after "ash" represent the elements of that important ingredient; and it will be seen from this analysis that a fertilizer for grapes should be rich in potash, lims and phosphoric acid—which, especially, so far as potash (much of it being contained in hard wood) is concerned, tallies well with the general experience of the most successful vineyardists in this part of the world.

Bonfoats Circular reports the spring backward in Bordeaux, but this fact is looked upon as of favorable augury, because the danger of late frosts is avoided. The vintage of 1887 has proved a great victory for American stocks in the Medoc.

All the vineyards are planting them where they are needed, as it is found that they amply repay the expense and trouble.

The winter in Burgundy is not yet over in spite of the snnny Easter days, and work in the vineyards has been once more interrupted by snow.

In Germany the pruning is pretty well finished in spite of the bad weather at the beginning of the month.

ATTENTION is directed to the new newerusement, which appears in this issue, of horse and wagon scales, manufactured by the old and reliable firm of Fairbank & Hutchisson.

#### WINES.

#### Their Characterists and Adulterations

Frances Wyalt Ph. D. in continuation of the subject in the Analyst of May 1, says: What really constitutes good quality and

imparts high value to a wine? This is in-

deed a knotty question; one which, in fact, the present state of our scientific knowledge does not comble us to answ r. If no those confusing differences of public opin ion and preference born of prejudice or half educated taste. Are we justified in regarding as types of perfection those wines which contain the highest percentage of alcohol; or those possessing the largest proportion of sugar, or those with a minimmm of acidity: or are we to consil r as a surer guide the total amount of extractive or solid matter, obtained by evaporating the liquid to dryness in a vacuum, at a low temperature? In our own emphatic opinion it would be ridiculous to charac terize either of these qualities as conclusive criterions. Nay, we may even go farther and say the same of a wine that embodies them all-for, in our experience, we have met with hundreds of such, which yet were very poor and unpalatable vintages. Under these circumstances, the only course open so analytical chemistry was the adoption of standards, and it has been th. aim of our best investigators, for many years, to accumtely fix upon the constitueuts of the best known and appreciated wines, from samples of known origin and undoubted purity, so that by comparison with them we might pass judgment upon all the rest. However rational this method of proceeding may appear, and doubtless is, it has yet nevertheless met with very harsh criticism and active opposition. Its adversaries have argued that, since this very peculiarities which most endear wine to our senses of smell and taste, admittedly depend so essentially upon the soil and other surroundings in which each plant is grown, to fix any definite standard of composition must be both arbitrary and inconsistent. They point out that certain vines flourishing, for instance, in Burgundy, may produce a wine of an inviriable nature in the place of their nativity, and yet, may, if transported to and planted in California, Virginia or New Jersey yield, though treated in exactly the same way in every detail, a wine varying in every particular from that produced in France. These are serious objections; and yet, while we cannot exactly deny their truth. we deem it very unwise to exaggerate their importance. What analytical chemistry is intended to oppose and to gnard against, is not the product of nature, be it poor or rich in any desired particular, but the art ful devices by which dishonest in a seek to imitate or to approve upon that product Hence, our lack of knowledge of what constitutes the element spoken of as the bouquet or flavor of wines, is immaterial to the issue. We have made sufficient pregress not only to know with absolute e-rtainty, the nature of all the tangible, preceptible or visible substances which a natural winfrom the grape, of whatever origin, should unfailingly contain; but the approximate relation in which these substances stand to each other. Thus when we discover an nudue proportion of any given constituent or the presence of any substance which has not been found in the same form of combination in any known quality of natural wine, we are immediately able to

certify to adulteration and to identify the adulterant. With the exception of certain perfumes or odors, there is hardly a single hody which could be added to a wine in order to improve it or impart to it some desirable qualities which it is known not to naturally possess, that would now escape our detection, whether it has been added before or after the fermentation.

In evidence of what we have learned, we referred in our last chapter to a large numher of compounds continued in the grape, and to the constancy of their existence in every variety, wild or cultivated, in proportions varying with the degree of maturity attained by the fruit. It will be apropos at this juncture to give closer attention to grape jaice, in order to more firmly estabjish and strengthen our propositions To commence with the sugar, there can be no doubt that this is the factor chiefly responsible for nearly all the phenomena which accompany the transformation of the juice into wine; and yet, so singularly uncertain and varied are its proportions, that while some varieties contain as much as 40 per cent, of the entire weight of glucose. others yield as little as one fourth of that amount. Next in importance to the sugar we must rank the nitrogenous or albuminous bodies, since the action induced by their initiatory change under the influence of certain germs in the air, first excites the glucose to vinous fermentation. Then came certain kinds of gum, some pectic and mucilaginous principles, some dextrine and some minute qualities of fat or oil, After these come malic, citric and tartaric acids, more or less saturated by potash and hm , and combined with minute perpertions of sodium and ammonia; and finally, come variable percentages of the phosphates of iron, alumina and magnesia, traces of silica, chlorine, carbonic acid gas and oxygen; water, in the ratio of from 60 to 50 per cent., holding the whole in solution or suspension.

Ti · volume of the ensemble of all these hodies in a most that is to be submitted to fermentation, is gauged with great accuracy from its specific gravity as compared with that of an equal volume of pure water. Taking as a basis for calculation that the heavier the liquid the greater the amount of sugar, it has resulted from the most careful observation, that when the must is measured by Benume's arcometer at a tomperature of about 60 deg. Fahr, each degree indicated by that instrument will correspond to the production of 1 per cent. of alcohol by the fermentation process. Thus, for example, supposing the juice to possess a strength of 10 deg. Beaume, the wine, if allowed to complete its fermentation, will contain 10 per cent, by volume, of absolute

To be continued.

When a belon first begins to make its appearance, take a lemon, cut off one end; put the finger in, and the longer it is kept there the better.

Mr. M. A. Powell, is now in Boston representing the wines and brandles of the Madan Vineyard, in Los Angeles.

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#### NATIVE WINE SHIPMENTS OUR BY SEA.

#### PER P. M. S. S. CO'S STEAMER COLIMA, MAY 7, 1888.

#### TO NEW YORK.

MARES.	SHIPPERS.	PACKAGES AND CONTENTS.	OALLONS	VALUE
L	Arpad Haraszthy & Co	1 barrel Winc	49	84
A S	Wm Hoelscher & Co	15 barre's Wine	712	42
V Co	A Greenbaum & Co	30 barrels Wine	1.502	93
C & Co	Lenormand Bros	20 barrels Wine	1.001	30
in diamond	Cal. Transfer Co	39 barrels Wine	2,330	1.00
P	Frapoii Berges & Co	50 barrels Wine	2.381	70
D & Co	B Drevfus & Co	250 barrels Wine	12,125	8.10
46	0	25 half-barrels Brandy	6.3	50
V Co	**	25 barrels Wine.	1.255	1.00
16		5 half barrels Brandy	150	52
G M & Co		25 cases Wine		14
11		1 case Brandy		1
V Co	C Shilling & Co	171 barrels Wine		
	*1	100 harrels Wine	13.167	5.42
M S	61	5 Octaves Wine	134	
	**	I case Wine		
B	ås.	6 barrels Wine	232	13
3		1 half barrel Wine	26	12
		9 barrels Wine	458	1.9
S		41 barrels Wine.	2.087	5.5
n diamond.		25 barrels Wine	1,274	36
P		15 barrels Wine	772	21
		39 barrels Wine	1.955	79
F	Coarpy & Comment	49 barrels Winc	2.445	95
19		1 barrel Brandy	51	10
c M		21 barrels Wine	1.031	43
. М		2 half barrels Brandy	54	10
3		25 barrels Wine.	1,228	22
		25 barrels Wine	1.231	45
88		1 barrel Wine	52	10
	41	25 barrels Winc	1,229	49
15		1 barrel Brandy	48	48
3	**	5 barrels Wine.	247	15
	S Lachman & Co	10 barrels Wine	504	20
diamond		15 barrels Wine	742	25
diamond		10 barrels Wine	505	20
d diamond	Williams Dimond & Co.	10 barrels Wine	426	15
	· mains, Dimond & Co	LO DALLOIS WINC	420	10
Total amount of Wine,			50,988	\$1,912

#### TO CENTRAL AMERICA

A B, La Libertad	Eng de Sabla & Co	12 cases Angelica		8 4 2
N M. La Libertad	Urruela & Urioste	2 barrels Wine	68	51
T W J, Corinto	Chicago Brewing Co	2 cases Whiskey	5	20
14	0	2 cares Wine	5	71
AROA, Corinto	16	2 cases Wine	5	
TA& Co. Puntas Arenas		12 kegs Wine	240	230
FE&Co, Puntas Arenas	Ga legos Wine Co	9 barrels Wine	153	90
B & Co, La Libertad	John T Wright	1 barrel Whiskey	44	68
E.C.& M. La Libertad	86	3 half-barrels Wine	7.5	48
J M, Acajutla	Kohler & Frohling	2 quarter-casks Wine	30	60
B & C, La Libertad	W L S Haas	1 barrel Whiskey	44	66
E R. San Jose pe Qunt	B Dreyfus & Co	30 cases Wine		130
JEM, Puntas Arenas	14	4 barrels Wine	108	97
"		12 ca-es Wine		55
E.E. Puntas Arenes			25	113
V W S, Acajutla	J H Dieckman	110 cases Wine	264	500
6.6	+1	2 kegs Wine	40.	30
16	**	2 cases Brandy	5	25
46	**	2 cases Sherry	5	22
44		2 casks Claret	60	70
•1	"	3 cases Brandy	48	100
S A O, Acajutla		5 cases Wine	12	25
A G. in oblong, Corinto	F Mceks	20 cases wine		
41	44	4 kegs Wine	40,	101
P A A, Puntas Arenas	4	7 kegs Wine	140	140
Total amonut of Wine,	62 cases and			\$1,681
Total amount of Whisk	ey,		118	26a
Total amount of Brandy			65	150

## TO MEXICO.

	-	
C H, Mazatian L F Lastretd   1 barrel Wine	50	
J C, Acapulco	120	
R T, Acapulco 2 casks Wine 2 cases Wine S cases Wine	120	48 33
L Y R, Mazatlao Cabrera, Roma & Co S cases Wine		33
L S. Mazatlan. Redirgton & Co. 1 keg Wine.	49	
E K, Mazatlan Redirgton & Co 1 keg Wine	18	12
Total amount of Wine, 8 cases and	357	\$214

### TO BUENAVENTURA.

0 & C	Eug de Sabla & Co	1 keg Zinfandel	20 20	\$ 1 <sub>0</sub> 10
Total smount of wine		*****************	40	\$ 20

#### TO ENGLAND.

tin & Co   10 cases Wine	.   \$46

## TO NEW YORK-PER STEAMER AUSTRALIA, MAT , 1888.

S 1 J C D Bunker barrels Whiskey	218	\$ 210
—O— Heyman Bros 5 half barrels Wine	108	20
G in diamond	1.140	948
H J 3 harrels Wine	148	136
** 26 kegs Wine	130	169
11 kegs Wine	110	96
" 15 cases Wine	18	39
1 barrel Wice	47	50
FAS&Co J Morten & Co 1 barrel Wine		
3 cases Winc	221	150
GUM Kohler & Van Bergen . 25 kegs Wine	125	125
5 half barrels Wine	168	168
" 10 cases Wine	1	50
WCPB Oreyfus & Co55 kegs Wibe)	1	00
" 75 kegs Wine	925	795
Total amount of Wine, 10 cases and	3.140	\$2,686
Total amount of Whiskey	218	110
		- 120

### MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEI.	RIO.	GALLONS.	VALUE.
	Mexico			\$100
Hanoiulu				1,300
Victoria	. , Mexico	Steamer		34
Auckland		Steamer		48
Japan	Gaelic		42	34
l'etropanlofski	Alexander H	Stermer	1,170	875
Victoria	Umatilla		56	52
	Monstenat		256	113
Victoria	Mexico	Steamer		2 2
Tahiti	City of Repeete	Barkentine	910	357
Jaran	city of New York	Steamer	357	255
Total			5,742	\$3,408
Total shipments by I Total Miscellaneous	anama steamershipments	52,6 8,8		\$21,090 6,094
Grand totals		61,56	1)	27,184

# Fairbanks' Standard Scales

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BARREL

AND

**BOX TRUCKS** 

Our Wagon and Platform Scales are used by all prominent Vineyardists and Fruit Growers.

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Beg to call the attention of Wine Growers and Wine Merchants to the following articles, the superior merit of which has been confirmed by Silver Medals, the highest award—given at the International Exhibition of Paris 1878, Bordeaux 1882, and Amsterdam 1883, viz.



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We have the authority of the National Druggist, based upon the reports of the British consulate service, for the assertion that French brandy, warranted pure and labled with any brand, of any desirable age, bouquet, etc., is manufactured in vast quantities at La Rochelle, the materials being German potato spirit (Kartoffel-Branntwein) and flavoring essences from various sources. The amount of this stuff that is exported to America, Eugland and the colenormous. It is strange that the Freuch such enormous quantities.

FRAUDULENT FRENCH BRANDIES. government, usually so punctilions on such things and severe on sophistications, does not take some action in regard to the matter, especially since attention has been drawn to it so publicly and officially. It seems to us that the facts here stated, along with the well known falsifications of French wines should furnish the American Congress with the excellent hasis for a bill of a retaliatory nature, which would either open France to American products now virtually excluded from that country (pork, for instance), or would shut out the vile onies of the latter, is said to be something poisons which France is sending to us in

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"TOMAHAWK" BRAND, SUNNYSIDE PKC CO. FRASER RIVER.

BRITISH AMERICAN PACKING CO., BRITISH COLUMBIA PACKING CO., ENGLISH

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We also offer For Sale of Other Columbia, Sacramento and Fraser River Salmon:

Ceo. W. Hume's "Flag" brand, Hapgood & Co., IX L, Pillar Rock Pkg Co., Ceo. T. Meyers, Ocean Canning Co. Badolett & Co., (Flats),

Washington Pkg Co's "Favorite"
Brand,
"Epicure" brand.
Pacific Union Pkg Co.;
Cutting Pkg Co's "Cocktail" (Flats),
A. Lusk & Co's pack,
"Mermaid" brand,

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# ALASKA FISH.

Karluk Pkg Co., "Challenge" brand. Arctic Pkg Co., Arctic Pkg Co's "King" Salmon.

We also have the "O & O" brand, an outside river fish, and many other brands, that can be had on application,

# WE ARE SOLE AGENTS FOR THE CELEBRATED

Golden Gate Packing Co, "Black Diamond" brand of fruits,
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brand of fruit, San Lorenzo Pkg Co, Riverside Fruit Co,
Colton Cannery, J. Lusk Canning Co, San Mateo Pkg Co,
Sierra Madre Packing Co, Santa Clara Packing Co

#### WINE MEN OF SOUTH AFRICA.

The Cape Argus reads the wine grower and dealer the following common sense lecture on their mutual disagreements, much of it is applicable to some of our owo people who never seem happy unless in hot water. "The boycott is a weapon of mighty force; but its working is as little developed as the "corner." One of the coming struggles of the civilized world is one in which "corners" and hoycotts both will play a great part, but we scarcely think that the Cape wine farmers can use either of those double edged wenpous effectually. The "corner" was tried last year when the Brandy Bond was started, the farmers pledged themselves not to sell under £10 per leaguer; but it failed most miserably. Mr. Joubert's proposed boycott would be still more liable to failure; and until we have reached the point of perfection at which we can engage in social wurfare, after the most approved American methods, we had better let such weapous The Brandy Company will, we should hope, become a success, without its being necessary to excommunicate anyone who declines to take shares. It is a very curious fact that the Auti-Convict Pledge, of a full generation ago, should have so burnt itself iuto the minds of the people of this country, that the boycott, as a means of exercising social or even commercial pressure, should have been advocated and sometimes practised long before the name by which we now know the practice had been applied to it in Ireland.

If public movements and public aid of every kind could place an industry upon its feet, the Cape wine farmer should be the most flourishing of all colonists. The tariff is higher with respect to wine and spirits than it is to almost any article of consumption, affording the wine farmer a practically undisguised, but still very real Protection. The Excise was declared to be a burder which fell upon the producer, and it was removed, while it was retained, ao far as if efforded Protection to the wine farmer-internal Protection, that is, of colonist against colonist being a thing unknown elsewhere in our fiscal system Special Acts, so rigorous as to forbid the importation of a bit of shamrock with which to celebrate St. Petriek's day, have been passed in order to prevent a plague approaching the wine farmer, and fresh Acts, involving public expenditure, passed to extirpate the plague when it has found its way here, despite not very scientific prohibitions. An experimental wine farm has been set up, and experts engaged to teach the wine farmer how to improve his product, and the prizes offered by Government with the same object, have been supplemented by the most munificent offer of prizes for public objects ever made in this country by a private individual. Added to this, the Cape Town merchants, undeterred by previous losses, have formed a syndicate for the euconragement (by purchase and export) of wines made by the modern method. The list of favors and attentions could probably be extended, but we have said enough to show that uo colouists of any class have had half done for them that the wine farmers have had done for them. And where are they after it all? Not very far, we fear, from where they have been throughout, although it would be wroug to overlook some slight signs of improvemeut, not the least of which are the genuine efforts made by two or three Cape Town

improved manufacture-more or less after Von Babo's method-and with some success. It is of no use to be bitter against the wine farmer. He lives an isolated life and is very much cut off from the influences that have made the Australian and Californian cuter the race two hundred years after him, and then leave him behind. It may be a sore point, but the truth must be told. The Caps wine farmer's want of familiarity with English prevents his being subjected to the quickening influence of the press, by which he could learn each week of what was being done all over the world in his own industry. How many wine farmers take in the British, or any other wine trade journals to see what is required in the markets of the world? We do not care about them having British journals, let them have German or Americau; but until the Cape wine farmer is educated up to alertness to every movemeut of the world's markets, and to the changes that are going on in his own, as in every other industry, not much will be done with him, unless it be by the example of the few men of intelligence and progress who are already doing their best to improve the manufacture of wine, instead of seeking to bring about "corners" or boycotts in braudy. It is from the example of such culightened men tuat most hope is to be drawn for the future of a most depressed industry.

### OLIVE CULTURE.

President Ellwood Cooper, of Santa Barbara, read a short essay on the olive eulture before the State Fruit Growers' Convention at its last meeting. He recommended at the outset the reading by those who desired information about olives of his essay which was read in 1885. He suggested also the reading of pamphlets by F. Pohndorff and Adolph Flamaut. In his late experience in planting, he had found that trees should be plauted far apart, nearly thirty feet. His trees were planted twenty feet apart, and recently every other row was removed. Trees might be planted twenty feet apart if desired, for several crops may be gathered before removal, as some of the trees will have to be removed. Mission olives only are cultivated on Mr. Cooper's place, and he admits having little knowledge of other varieties. The olive will flourish in all parts of California, and an far as product is concerned; Mr. Cooper will defy the world to equal the oil produced on his place. The oil is sore and profitable, but trees require care and cultivation. He recommended those contemplating olive culture to plant different varieties and await results. The best result on his place was 10.56 ponuds of olives to one bottle of oil. The poorest result was a bottle of oil from 124 pounds. In response to questions Mr. Cooper explained regarding the drying of the olives prior to making the oil. The olives are picked early in Decemher when the fruit is half red, half green. Pruning is begun the second year. It is a good plan to let all the small branches remain until the tree is five or six feet high. High pruning is better than low pruning for const countries. Mr. Cooper never heard of any olives being sun-barned. He has no black seale on his place. method of looping off perpendicular shoots and "inside pruning" recommended by Freuch experts is unuecessary in California. Let the trees grow up straight, cutting off

branches would fall over outward. Cut- bay tree planted beside living waters," tings about 14 inches long, from 3, to 11/2 inches in diameter, the ends sawed with a sharp saw, are generally planted. They are planted in the nursery in rows five feet apart and five or six inches in the rows. They are planted slauting, heading north. Nothing on Mr. Cooper's place is ever irrigated. Cuttings are planted both in the nursery and in the field, and then the oursery cattings are used to replace those that fall in the field. The olive orchard should be searched every May, usually for traces of the black scale, which is the oue great danger to which olive orchards are subjected. Mr. Cooper expends about \$150 yearly in fighting this scale. The trees require three or four washes yearly. One laborer can pick 300 pounds of olives daily. Trees are picked cleau of all fruit. heavy subsoil is not good for olives. ground should be caltivated and warm, not wet, when cuttings are planted. Cuttings do best when planted in March or April.

### DECAPITATION OF INSECTS.

The Marysville Appeal says: J. C. Forbes, a brother of the District Attorney, has a very effectual way of dealing with certain insect pests injurious to fruit trees. On the foothill ranch of the brothers several hundred olive trees were set out this spring, all of which have become well established and are making a good growth. Bot of late, a fly known as the twig-borer has appeared in the orchared, and has perforated a number of the branches of the little plive trees. It eats its way into the center of the twig, and proceeds to hollow out its domicile for a space of an iuch or two, leaving a hole to mark its place of entrance. J. C. Forbes keeps a watchfut eye on the trees, and as soon as he discovered the presence of the pests he made war upon them. He went over the trees, one by oue, and wherever he found a hole in a twig he dug out the fly and cut its head off. He called at the Appeal office the other day to ascertain what was considered the best way to dispose of these insects, but nothing more effective than his own method method of treatment could be suggested. With large trees, however, some form of spray would probably be found useful to prevent the attacks of the insect, though they do comparatively little harm on large-perhaps destroying no more wood than would be removed by

#### A PERPETUAL WONDER.

The grape viue, the Vineyardist observes. is one of the most wonderful things in the whole range of the vegetable kingdom. Its species are many, and its varieties innumerable, as the seeds of every species and variety always produce new varieties, instead of reproducing the kind of vines on which they grew.

And then it is almost impossible to acclimate the vine imported from foreign countries, and introduce it, even with the most careful nurture and culture, to adapt itself to new locations and surroundings. It lauguishes like "a pilgrim and strauger in a strauge land," and finally droops and dies, like one stricken with feebleness and homesickness, who vainly pines for friends, kindred and home.

But when native and "to the mauner born," if only given a fair chauce, and refirms to push the wines of the new and some of the outside branches, and by and spect is paid to the laws of its nature and was liable and died from its effect.

by when the trees begin to bear, the development, it will "flourish like a greensoon do much toward "taking care of itself," and reward its owner's kindly care and protection with an abundance of the choicest of all fruits known to any part of the world-for what can compare with the ripe, lucious and tempting clusters of the

> The most marvelous thing, however, about the grape vine, is the amazing instinct, almost amounting to intelligence, which it manifests in its search for needed moisture and food. In times of drougth, it will send its roots many feet away and down deep into the earth, in search of water, and fully as far in the quest of untrition, in the shape of a baried boue or other fertilizing substance, which it surrounds with a thick mass of fibres, and never leaves until all is appropriated, as required to its growth and use,

> The science of grape culture consists in anowing the nature, habits and wants of the varieties you are enlitvating, and supplying the soil, and, through the soil, the vine, with the proper food on which it lives, grows and yields a full fruitage, year after year.

> If wrongly cultivated, placed in a bad location, neglected or abused in any way, the vine resents the indignity, as certainly as can nuv sensitive buman being, and always makes its feelings of resentment known, in a way that cannot be misunderstood; but, if well and properly used and encouraged, it never fails to manifest its gratitude, in a manuer equally positive, certain and numistakable to all intelligent minds. The moral of this great truth is obivious, and needs no further illustration.

### OFR SECRET SOCIETIES

There are over two hundred secret societies in the United States, according to "The Cyclopædia of Secret Societies," published by William Mill Butler at Roches. ter, F. Y. This includes all fraternal, benevoleut, social, insurance, political, relig. ious, temperance, and other orders, whose members take an obligation and hold secret sessious. The present membership in the United states of some of the leading organizatious is reported as follow, for the World Almanac bp Mr. Butler:

Memi	ership.
Free and Accepted Masons	00,000
	30,300
	000,00
	80,000
	10,000
Independent Order of Good Templars 12	10,962
	91,876
	21,756
	80,000
	64,000
	62,864
	49,200
	47,000
	39,539
	33,958
	30,000
	29,271
	25,491
	20,000
	15,000
Knights of the Maccabees	14,000
United Order of the Golden Cross	11,000
Benevolent Protective Order of Elks	6,500

\*The total number in the world is various ated at from 3,000,000 to 5,000,000. He the total number in the world is 483,103. This is exclusive of 33,333 Odd Fellows ho have taken this degree.

§The total number in the world is 67,060.

THE Western Broker indulges in the following sly hit at the prohibitiouists: "The Duke of Wellington loved good wine. At one of his dinners, however, at his homa iu Strathfieldsaye, he drank a few glasses of iced water, and in the night was seized with one of his epileptic fits to which he

#### FOREIGN VITICULEURE.

rower in that part of the world.

bout \$1600 the acr intrinsically, and alculates his net profit at \$50 the acre, the vine. lis trees are on hill ides, plant d about en metres apart, and some of them big ellows, 200 years old. He uses the Vestale olive, of Nice, for oil, and the Verdal out this is simply due to scarcity of w. t. r. de grows vegetables between his tr s, which is not at all orthod x according to abit in parts of Italy and is severely critiiaed. In regard to irrigation, it is said ruit, it tends to impare the quality of the goded. In the purseries the young trees he freezing of olive trees are not unusual. five or six years.

The vine growing of South rn France is

id low, even moist, but the best qualities. I rings more than makes amends. e grown on slopes, oft n where inacce sito the plow, while the plains exel in nantity Virgin soil is the best, and if given other culture for a term of years. is the rule to keep vineyards free from ther cultures. The earth should be broughly grabbed before planting, to a ries very much in this respect. is important to pick out vigorous ones; d not take them at random. It is ly s system of selecting that the excell nt nes of the Beanj dais have been developed m the common Gamay stock. Not only te from choice stock, but select from the a branches, r jeeting suckers and other sh. The b st cultivators to-day nev r enttings over thirteen inches, and ten proved of, and fre quent stirrings of the I, but a sparing use of the plow. The and wines of Bor Laux and Champagne regularly manur d, the recognized ory being that a pound of manure makes ound of grapes. In the Beanjolais they between eight and nine thousand inds of manure yearly per hectare 21 es) upon the vineyards, or four times

of that section are counted as among the roads in the world with their cable, and the 1 st of France. In parts of Switzerland The Citr graph in its foreign c rrespond they manure fifty per cent, more heavily nce, gives the following int resting facts than this, and they reckon on the same egarding the olive and vine in South rn inle, a pound of grapes from a pound of Europe, obtained from the practic lax- range. There is another method in wif nee of Mr. Bermond, a prominent vi in fer strengthening the vine, and that is to bring fresh soil from other localities Mr. Bermond's olive land he values at and spread it about the plants to impart vigor, as virgin soil is the intural home of

In shaping the vine a great variety of methods are employed, the desideratum be ii , the quantity of the product. The matere of the stock must determine the form In or eating. The trees are not irrigated, the V. It Ilina, in Italy, Mr. R dlands and Mr. Kham found the vines mostly trained on high tr llises or on trees. Some stocks require this method for the best results. nodern standards. This is a very common In the South of France the most common method is the short triuming, but it has been priving by experience that the vines hat while it produces more and larger thus treated are short r lived. The fine vines of the Bordelias are usually trained il. However, the olive trees in this part long, and many of the hest varieties of f France are often watered by hand or wine grap s are poor bearers when they are trimmed short. It seems in fact, that re raised considerably from seed, but up- the demand of the vine itself is the proper ss these are grafted they do not bear build to the style of its culture. For wine ntil eighteen or twenty years of ag . Wild grapes in Southern France, French anthori cions or slips are also much employed in ties recommend the Muscats, the Grenache, e nurseries, and are preferred. They the Monrvede, the Little Syrah, and the all for twenty to twenty-five cents each, various Pineaux. They recommend also the following foreign grapes as suitable to n such cases the best cure is to cut the t e soil and climate of Southern France in ees to the ground, leave it to push again, its present struggle to revive the wine inad also plant out shoots, from the old dustry. The Furmint of Hungary, from bots. The shoots should be four or fiv which comes the Tokay wine; the Pedroet above the ground, and will bear again Annenes of Spain, which gives the X-res; the Kismisch of Persia, from which the Shiras wine is made; the Mulvoisie, which ainly aimed at wine making and the furnishes the Madeira and the Cypros ising of table grapes for th Paris and wine; the Lacryma-Christi of Naples, with ondon markets. It is somewhat difficult the Marsalla of Sicily and sundry others. become accurately informed as to the To produce the best quality of wine, it is st methods of this culture, and the prop- necessary that the greater part of the juice selection of stock, as opinions are hope- in the grapes shall disappear under the ssly conflicting. A few points in passing action of the sun. It follows that the ay not be out of place. The vine will yield of wine may be only a fifth that of purish in southern France on high land ordinary wine, but the higher price it

## INCREASED FACILITIES

nes are to be replaced the ground should. The John A. Roebling's Sons Co. are Compelled to Enlarge their Estabtishment to Accommodate their Increasing Business.

In 1879 the well-known maunfacturers of dium depth of twenty inches. Practice all kinds of wire rope, Messrs. John A. Roebling's Sons Co., of Trenton, N. J., brough turning up of the land adds to epen I a branch house in this city. In · longevity of the vine. In selecting 1881 Mr. S. V. Mooney took charge of the ps, which are the best for propagation, agency, and r moving to No. 14 Drumm street, at once proceeded to successfully intreduce the goods manufactured by the firm all over the coast. So largely has the business of this establishment incr ased that the store on Drumm street, although covering three floors 27x90 feet, and a basem nt, has not been large enough to accommodat the business. For over forty years the firm of John A. Roebling's Sons Co, idvocated as better, with the upper eye have been engaged in mannfacturing wire at the level of the soil. Manuring is cables. Their establishment is the largest of the kind in the world, employing many hundre I working-men and covering several acrea of ground, with all the improved b schmery that skill, experience and money can provide or suggest. Wire rope or cable is there made for every conceivable purpose most important of which are for hoisting in minea and quarries, or cable roads, wire

mines of the Comstock us almost exclusively their wire. The majority of the telegraph and electric wire now in use is from their establishment. The house in this city is prepared to furnish all grales and sizes of wire rope, wire rope fastenings, galvanized telegraph and telephone wire insulated electric wire manufactured from the best Lake Sup rior copp r. The c mpany are the proprietors of the New J. rsey Wire Cloth Co. manufactures of standar! mesh window screen cloth, galvanized and tinned wire cloth, fire proof wire lathing, etc., a large stock of which is kept on hand They also manufacture the celebrated buckthorn fencing, which is fast superseding the dangerous barbed wire and gives the universal satisfaction wherever used.

In their new and enlarged quarters John A. Roebling's Sons Co. ar prepared to still further increase their basia sa, and will pay every attention to the wants of their customers at their stores No. 8 California and 14 Drumm streets.

#### PRENCH EXPORT WINES.

United States Consul Giffordat Bordeaux, says the Brewer's Gazette, warms the American public to beware of French liquors, more especially brandy, for the reason that no pure French brandy is sent hither. After commenting upon the methods employed in making brandy for export, he goes on to say that the bottles do not represent the quality of the liquor they contain. The dates 1863, 1870, 1875, etc., do not, he says mean that the inclosed liquor is brandy put up in those years. It means that the liquor has been made to resemble as closely as possible that which was really made in those years, in other words, the brandy sent hith er from France is spurious, a concoction put up in a laboratory, in which the taste of good brandy is counterfeited by various

It is worthy of comment, that while the laws against the selling of spurious wines and liquors in France are rigid in the extreme little or no attempt is made to prevent the chemical preparation and adulteration of these liquors for exportation. Quite recently the proprietors of a Paris restaurant were arrested and tried for selling wine, which by its composition must have been intended only for export. It was colored with an extract of coal and mixed with plaster of Paris a pretty combination, truly. A man and his children who drank it testified that it had "a very pleasant taste of raspberry," which shows what Imagination will do.

But even so strong an imagination as this was not equal to withstanding the effects of the wine, and a doctor had to be brought in

The suit was brought by the Municipal Laboratory, and the punishment inflict d was a fine of 1,000 francs and one years' imprisonment.

### WINE NOTES PROM CUPERTINO.

A correspondent of the San Jose Hersld, writing from Cupertino, says most of the wine men there have been selling off their stock this spring. Mr. L. Sellinger of San Francisco obtained 16 cents and C. Meyerholz 14 cents. This is quite a low figure for our wines, for they are wines of superior quality. The fact is that we are passing through the season of low prices predicted long ago. All who have planted vineyards so far have figured on selling their grapes suspension bridges, etc. This establish to wine-makers, overlooking altogether the t quantity every four years. The wines | ment has furnished a majority of the cable | possibility of their being eventually obliged | foreign vines.

to make at I take care of their wines Naturally en ugh the middlemen have tak it advartig of the providing need of b th wine to king and storing houses to get and keep the market down to the lowest possible tig ire. But this may eventually prove a blessing in disguise, and whom very vine yard has its own wine celiar the situation will be reversed and the winemak r have the advantage of the market, for the d mand for our California wine is quite brisk and the ship ments steady, as my one can see who takes the trouble to note the nature of the freight that is being laily passed over the wharves and through the railroad dapet of San Francisco,

Richard Henry, Jr., Dock Kifer and John Bergin are vin yard men who are contemplating building wine cellars. Amongst those who have built during the past year are John Bubb, Captain Woods, S Sellinger and the Fathers of the Santa Clara Villa. Especially are the colors of the Fathers and S. S-llinger handsome affairs with coner te foundation.

## AN INTERESTING THEORY

A correspondent of the Vincyardist says: Several years ago, whin I read the report of the German statician, calling attention to the fact that American vines contained resin in the sap, I looked upon it as a new fact to be laid by in the memory for future use. Its full bearing did not come to me then but has gradually unfolded itself since, and I have been waiting and wondering if other horticulturalists had so noted the bearings, but have seen no public expression of it if they have. The observation was made in connection with the study of the injuries of Phylloxero Euslatrex upon the vine, and seems to have gone no further with horticulturalists. But, in my mind, it has gradually grown to be a most important and pregnant fact, in explanation of some of the habits and crowth of our native vines explaining certain things that before I had not been able to explain, and it is yet true that the ordinary vineyardist assigns no importance to the fact that resin is an element of the sap of the vine, but when by observation and experience he has informed himself of the important part that it finally plays in the vine's conomies, he is full of interest, and takes instant measures to avoid the evil results of some of our faulty and carcless system of pruning. Lycryone has observed that diff reut vines require a different style of pruning compared with European methods. The reason for these diversities in methods is now apparent. We must throw away the old and begin with the new. Take ecgnizance of the bearings of a new fact, an I make application of it to trimming, as will as combatting the injurious off ets of the punctures of an insect. There is another interesting boring in the study of this tepic, perhaps not of so much practical importance to the vineyardist as to bil gist. This is the question, how did it come about that r sin has been developed in the sap of the native and not in toreign vines. I think it may find its explanation in the depredicions of Phylesera Easlatres. During long ages, the life of the plant being membered and thr atened with exterminot n, to protect itself it began to cover the wounds made by this insect, with its exudato s, those plants alone surviving that were able to develop the greater amount of resin ons compounds in their sap. The insect being found native in America, and not in Europe, the American vines had to invent a protective element, not necessary with



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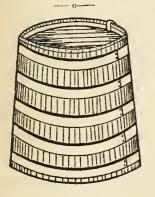
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#### PHYLLOXERA IS AUSTRALIA

The pholloxera still flourish a in the rineyards of South Australia; and at a reent visit of the Board of Inspection to reelong, three properties in the Batesford listrict, which had been used as vineyards, were visited Ou a property occupied by Mr. Bennett, off the Batesford road, the leenyed roots of vines were found, but not my traces of the phylloxera insect. Some sealthy vines were discovered growing beween the original vineyard and a dividing

Mr. C Craike's land was next inspected, and many holes were sunk on part of the property which had been extensively dis ased, but the inspectors failed to find the phylloxera, although some vine roots exnibited signs of vitality. On the property ormerly owned by Mr. Hout and used as a rineyard, the phylloxera was found on a ine two feet below the surface of the round. This land had been plowed and lso trenched.

The members of the board continued heir inspection in parts of the German own and Highton district on the following

The old Viveyard Company's area at lighton, and now occupied by Mr. C. Mauer, Jr., was first visited. Several holes ere sunk in search of the insect, but only ecayed and a few live rootlets were disovered. In the next property, however, hich had been used as a vineyard by Mr has. Maurer, Sr., live routs were found in ght sandy soil, and decayed roots in thick ayey kind of ground, but no appearance r trace of the phylloxera searched for by e board upon any of the roots.

At Waurn Pond, about three miles disint as the crow flies, several holes were ext aunk for the board. Decaying roots ere found in them, and on a close inspecon on the hill top of Mr. Tetax's land the ots were found to be full of vitality, and me covered with phylloxera vastatrix. he members of the board were satisfied at phylloxers still existed in the district, id returned to Melhourne by the midday in the same day.

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BELGIC

TUESDAY, JULY, 31st
ARABIC

TUESDAY, AUG., 21th
OCEANIC

SATURDAY, SEP, 8th
GAELIC

SATURDAY, SEP, 29th
BELGIC

THURSDAY, OUT., 18th
ARABIC

WEDNESDAY, NOV., 7th
OCEANIC

WEDNESDAY, NOV., 28th
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reases in the same ratio as the resistacc. The platform is 50 inches wide and 10 feet loug, is run back and forth under the uress on a railroad track. Has two baskets, by which you can fill the second hasket while the first one is under the press, thereby doing double the amount of work that can be done on any screw or lever press in the market that use only one basket, for this reason: While my press; sworking continuously the other kinds are doing nothing during the time they are emptying and fill ing their basket.

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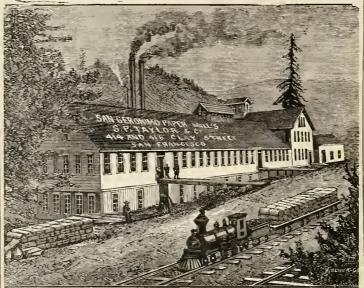
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	-	po and principal way sta.	
1	0,30 A	( Way Stations	4.36 r
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VITICULTURAL PAPER IN THE STATE. THE ONLY

Devoted to Viticulture, Olive Culture, and other Productions, Manufactures and Commerce of the Pacific Coast.

VOL. XX, NO. 4

SAN FRANCISCO, MAY 25, 1888.

PRICE 15 CENTS

# Report of the President of the State Board of Viticultural Commissioners.

(Continued from the S. F. MERCHANT of May 11th )

This list or jud x is far from complete of the work accomplished or inaugurated by the Commission many valuable papers having appeared in the daily newspapers. that my limited time will not permit of finding.

At the time of the organization of the Viticultural Commission it was estimated that there was 35,000 acres of vines planted in the State. I am inclined to accept these figures as correct. Of this amount there may have been planted as much as twenty per cent, with imported varieties and the bilance with Mission grapes.

At the present date after eight years existance of the Viticultural Commission, it is believed that there are planted not less than 150,000 acres in vines and fully 90 per cent, of these are reckoned as consisting of the finer grades of foreign wine grape varieties, mainly drawn from France Spain, Portugal, Italy, Germany and Hungary. The result of the planting of these fine grade grape vines, has been the producing of wines of much better quality than had been hitherto produced, creating a revolution in favor of California wines and the conquest of markets that even the most sanguine among us never hoped to acquire.

From the very beginning the Commission, recognizing the value of correct statistics end-avored to collect such as might show the true condition of the viticulture of our State, with this purpose in view circulars were sent out to all parts of the State, asking for detailed information on the number of vines planted in each district and locality; the age and varieties of vines planted; the number, names and post office addresses of the various vine growers of the different districts, and other matters of public interest and value.

Though this work was entered upon with zeal and prosecuted vigorously it met with only a partial success, owing to the many unreliable statements, received from some quarters, and the general nawillingness to give any auch information by those inter-

able to scenre the names and addresses of about 6,000 viticulturists.

The same work had been attempted by a number of people interested in vine growing, and quite recently again by the San Francisco Wine Dealer's Association, but each effort proved abortive. Nevertheless very close estimates have been made, or at least estimates that are accepted as close, and with these in mind we can consider some of the points bearing on the pres nt and possibly the future of this industry in our State. And, at the same time we can note the actual progress made in the sale of our wines at home and abroad, together with the prices ruling and total estimated

To begin, I will assume that there are now planted in California 150,000 acres of vines which will all be in full bearing within three years hence. Allowing these an average value of \$300 per aere without other improvements we will have a valustion of \$45,000,000. Of course there are vineyards not worth \$200 per acre but these are few in number and either planted with the Mission or some other equally common varieties of grapes. On the other hand many of our vineyards are worth con siderably more than \$300 per acre which difference would more than balance the decrepancy of the above estimates. I reckou the value of the improvements necessary to carry on the vineyard business successfully at \$20,060,000. These improvements consist of fences, houses, barns, cellars, presses, tanks, easks, distilleries, agricultaral implements and machinery, live stock, etc., etc. The two estimates thus made would place the present capital invested in vitienlture in California at \$65,000,000. Comparing the present valuation with that existing previous to the creation of the State Board of Viticulture we are confrontial with the following interesting results: 35,000 neres in vines of which 80 per cent. were Mission grapes, at \$300 per acre, gives \$10,500,000; proportionate other improvements necessary to carry on the vineyards, etc., \$1,000,000; total investment, \$14,500,000.

Thus abowing a direct increase of \$50,500,000 in the viticultural investments within the last eight years, and of course yielding a proportionate greater incom; by taxation to the State through the enhanced

California that it has renped and will continue to reap a very handsome income from the paltry sums given to support this Board of Viticulture. We may doubt whether any private investment has ever secured such golden returns, always of course excepting the railroads and other transportation companies,

Within the past few years, owing to many contingencies, the production of our vineyards have not kept pace with the number of vines planted in point of quantity. These differences are caused sometimes by either fall or spring frosts, or by both; sometimes by strong winds sweeping over the vineyards while the vines are in bloom; then by the sunburn, and other times by the visitation of peronospera, or kindred fungoid diseases - Even the grasshopper has had his sway, and with him various other bugs, worms and moths.

Bearing in mind the rapid increase in acreage of vines from year to year, since 1877, we will be somewhat surprised to note the differences in the amounts of wine produced as shown by the following fig-

			Gals, new
Vintag	e.		Wine
1478.		 	 . 5,000,000
1870.		 	 $T_{i}(0)$
1880		 	 .10,200,1100
1482.		 	 . 9,000,000
1883.			 $_{*}$ 8,500,000
1441		 	 .10,(88),000
[586		 	 THOO HOO! II.
1 mmes		 	 .18,000,000
1847		 	 15,000,000

From the number of vines coming into bearing we should have produced not less than twenty million gallons in 1886, and twenty-five million gallons in 1887. In alluding to the above estimates as wine, I desire it understood that they are reckoned at the first racking of the newly fermented juice only. When the wine will have become one year old, and fit for removal by the trade the above quantities will have very greatly diminished through natural shrinkage and accidental losses, Much of it will have spoiled, and only fit to be used for making vinegar or

Considerable quantities of wine are annually made in this city by the Italian, Freueb, Spanish and Portuguese population, and either consumed in their own households, or sold in a small way to their neighbors and friends. Large quantites of grapes shipped to San Francisco are ested. In spite of these difficulties, however, the Commission has finally, been And we might smilingly say to the State of thus done away with, and, at the begin-

ning of the season, usually realize quite good prices.

It is difficult to make a close estimate of the wine yearly consumed on this const. I am led to believe that not less than two million gallous are consumed in San Francisco and Oakland, and abou three million gallons more in the inierior of the State, in Arizona, Oregon. Washingtod Territory, Nevada and Utah. The amount exported to the East rn States and foreign countries in 1887 reached seven million gallous more, giving a total demand for the year of twelve million gallons.

It ckoning in the sweet together with the dry wines this would give an approximate value of about \$4.500,000, and the brandy used on this coast of exported would swell the amount about \$1,000,000 more, giving a consumption equal to \$5,500,000.

And right here it may be well to draw your attention to the possible value of the productions of our vineyards within the next three years. Assuming that our 150,000 aeres will be in full bearing at the end of that time, that 15,000 acres of these are planted for 'raisins, and 10,000 for mising table grapes, we have left 125,-000 scres for wine and brandy making. These figures will yield us a possible one and a half million boxes of raisins; forty thousand tons of tible grapes for export and bome consumption; fifty million gallons of wine, and one and a half million gallons of brandy. I value these as

TOHOWS.	
1,500),000 boxes ramins at \$2 .	\$ 3,000,000
40,000 tons table grapes at \$30,	1,2001,0003
SHIRREIBIO gallons wine at 20 cts	. 10,000,000
1,500,2000 gailous tax paid trand)	al
\$1.10	2,1000,000
Total	. \$16,300,00h

It seems to me as it must likewise seem to you that the State is doing well to foster an enterprise that can bring such returns, the more so since the greater part of these productions will be sold abroad, and in return bring its harvest of gold to enrich our citizens, encourage labor and create prosperity.

The prices paid for wines during the past year rauged not discouragingly low. There seems to be a regular stampede among producers, and a corresponding fear among the merchants, that the prospective vintage of 1887 would turn out

This, however, not being the case, prices have taken an upward road, and while wines of 1886 could have readily been bought at from 13 to 14 cents per gallon in Angust last, all that stock has been exhansted and the new wines of 1887 now readily command from 17 to 20 cents for the ordinary qualities and notably higher for the finer grades.

The following are the average prices paid per ton, during the vintage of 1887 for the more prominent varieties of wine grapes.

Cabernet	₹25 to	8:30
Petit Pinot	25 to	30
Black Burgundy	18 to	-20
Mennier	18 to	- 20
Riesling	18 to	20
Mataro	16 to	18
Zirfandel	14 to	- 10
Carbono	13 to	16
Malvoise	8 to	
Miseion	7 to	8
THE POST OF THE PO		

It is of course understood that these prices varied in different localities conforming to the universal rule of supply and demand. It is a matter of fact as well as one for congratulation that the reputation of our wines is favorably increasing both among ourselves and among the wine drinkers in other countries. This is owing chiefly to the landable ambition of our wine makers not only to increase their knowledge in the modes of fermentation but also to their persistent efforts to secure better quality, through the planting of vines better adapted to their locality and selecting the finer varieties of grapes even at the expense of quantity. To continue in that direction will, in the near future, find na markets for any surplus we may have in Asia, South America, and even in Europe; were the Americans but wine drinkers at home, as they ought to be for their own good and the cause of true temperance, there would soon be no surelns at all.

Our increasing shipments of both wine and brandy out of the State by rail and sea are showing to considerable advantage by the following statistical tables that have compiled from the most authentic sources and after verification, arranged to give a clear comprehensive insight to the importance of this Board of Trade.

Receipts of California Wine and Brandy at San

Francisco from the Interior.							
Years.	Wine Gallons.	Brandy Gallons.					
1875	1,995,629	52,036					
1876	1,697,590	60,527					
1877	2,336,653	126,324					
1878	2,983,136	103,772					
1879	3,364,607	93,506					
1880	3,759,743	133,764					
1881	4,937,876	157,083					
1882	4,452,386	136,883					
1883	4,838,623	131,711					
1884	4,858,458	112,265					
1885	5,895,100	157,752					
1886	6,209,131	180,324					
1887	8,496,344	256,104					

Total ..... 55,825,276 1.702.051 The increase from 1875 to 1887 was 425 per cent, for wine and 492 per cent, for

The noticeable fluctuations in the amounts of brandy received were caused by the greater or less price that mine could command quite as much as to the scantiness or

ė		the vintage.	9 1
and com-	Average Price, cts	26 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
10031 with chipments out of the State with declared values and puted average value per gallon.	Total Values.	8629,219 681,327 883,626 1,174,689 1,174,980 1,718,206 2,008,619 2,231,517	15 383 454 93 397 930 98 791 984 891 895 0 18
nts out of the State with declar puted average value per gallon	Total Gallons.	1,031,607 1,115,045 1,812,159 2,155,944 2,187,353 2,847,353 2,847,353 2,847,353 3,180,167 3,524,699 4,256,224 6,011	88 701 28.4
outed average	By Rail Gallons.	523,698 508,476 508,476 508,483 756,880 941,340,163 11,451,558 11,451,558 12,313,614 4,123,224 4,123,224	DE 217 030
tine ontpuner	By Sea Gallons.	567,809 516,268 896,346 1,339,094 1,545,715 1,565,262 1,296,373 1,210,456 1,196,263 1,196,263 1,210,456 1,196,267 1,210,456	15.393.454
0.000	Years	874 888 888 888 888 888 888 888 888 888	

I draw your attention to the fact that the declared value is not always the true value; had the time permitted I should have preferred making out the values in accordance with the average ruling prices of the different years. It is fortunate, however, that the above estimates are not very much ont of the way considering that they cover a very large amount of sweet or fortified wines, such as Port, Sherry, Augelica, etc.. and besides that large quantities of old and costly wines. You will also note the steady unceasing gain of the rail transportation over that of the sea without a single interruption from 1875 to 1887. This is caused on the one hand by the increased consumption in the Eastern inland centers and on the other by an active and beneficial competition in the rates of freight between rail, steamer, sailing vessel, and a consideration of the important factors, time, interest and insurance. With quick and certain delivery the Eastern merchant cau do the largest amount of business with the lesser amount of invested capital. It is the consideration of this fact that has caused most of our larger city and country wine merchants to establish branch houses in the most important Eastern centers of trade. They are thus enabled to make quick and satisfactory deliveries.

By Sen Gallons.         Py Rall Gallons.         Total Allohars.         Total Value Gallons.         Average Fries.           39,994 64,940 75,859 75,859 64,045 64,768 75,859 75,859 64,768 75,859
---

The above table included all shipments to foreign countries and were such amounts considerable the average quoted would be over estimates for there is no brandy shipped to foreign ports that is not shipped in bond, and thus free of the Internal Revenue Tax of 90 cents per proof gallon. The only exception to this rule is such brandy as is shipped in cases, these are not within the bonding privilege, and it is a very great drawback to the brandy trade of our State that such privilege is not conceded by the Federal Government. Were we permitted to bottle our brandies in bond an enormous trade would spring up in foreign countries, especially those of Central and South America, Mexico, the Sand wich Islands, China, and Japan. These countries could thus also secure our brand ies in their absolute purity, and would not be slow in their appreciation of that fact and make the most of it, both for ordinary as well as medicinal use. In the matter of transportation, the rail shows the most extraordinary increase over that of the sea, and if continued, as it must, it would take the entire brandy carrying away from the aes were it not for the slowly increasing trade of Mexico, the Islands and Central America, as will be hereafter shown. It is by far more satisfactory both to consignor as well as consignee to have transportation of brandy made by rail rather than by sea, for reasons already mentioned for wine.

#### CITTINGS AND LAYERS,

A correspondent of the Citrograph writing from Spain npon this subject says: In the propagation by cuttings, choice twigs of the summer's growth are planted either in November or February. In some cases the stock desired to be reproduced iplanted, but in Valentia cuttings are selected with an eye to other points, and grafted a year later, usually at the height of about four inches. The method of layering is also practiced in Valentia, as it is in some other orange countries. As the Branch cannot be conveniently brought to the earth, the soil is carried to the branch by a simple system. A flower pot in two pi ces, or any receptacle capable of holding carth, is fastened about a branch of the tree. In the Azores they use sacking formed into a fuunal shape. The receptacle is firmly lashed about the branch with strong twine or wire. A straight branch, two fingers thick, is usually selected, though in the Azores they sometimes take limbs of four or five inches The branch to be subjected to this process should be cut down to about a vard or a little more above the encircling vessel or sack. That portion of it which comes in the middle of the box should be barker for an inch and a half, and at once bound up with grass twine or other vegetabl handage. Fill the box with well mixed earth and stable manure. Keep it well watered and at the end of the year it should be nearly filled with roots. Then cut off the branch below the box and set out the new tree. If properly cared for, it will begin to fruit in two or three years. This system is also considerably in vogue in the island of Jamaica, but as it is practically a slow one for the multiplication of plants, it is employed rather by amateurs than nurservmen.

The profit from olives in Spain does not appear to be excessive. In some districts it is estimated at a little over \$2 an acre, while other figures are given as high as \$58 per acre. I have already mentioned the estimate of the Carcagente farmer as three per cent. But it is asserted that Spanish data are very unreliable. Estimates from Italy place the net profit all the way from \$20 to \$60 per acre. In some parts of Spain olives do not flourish near the sea, as the winds are two harsb. As to soil, it is laid down as a general proposition that what is best for the vine is best for the olive. It is recommended that when young seedling plive trees are planted out in the nursery they should be aet in dry rather than irrigable land. The growth will be slower, but the trees will become the better prepared for transplanting to their natural home where irrigation is favorable.

Along the route from Bordeaux to Paris the red soil continued, "Redlanda" strung out nearly the whole distance of what is one of the most fertile districts of France. Vines were abundant, trained mostly on stakes three to four feet high. In the Medoc district the stock of the vine is usually six to eight inches long, and attached to a stake about fifteen inches high. To the stake, laths or wires are fastened which holds up the two arms of the vine. The branches are 13 to 16 inches in length and fastened horizontally to the laths. The best vineyards in the Medoc are said to be on aliotic subsoils, impervious to

and these lauds are greatly in demand. The gravelous surface soil is about three feet in depth. Prices are quoted by different authorities as from \$400 to \$4,500 per acre-the latter figures representing the vineyards at Chatean-Lafitte, and the net. profits as averaging less than 6%, but greatly exceeding this in the case of superior vintages of established repute. As far as Angouleuse, many fine vineyards, then corn, orchards, grass and general erops were seen. The cuttings show the red to yellow soil twenty feet deep, with not much gravel. Beyond Poitiers alfalfa and other crops with abundant irrigation, especially on grass lands. The best champagne vineyarda (near Epermay) are on whitish soil. At Tours the train enters the valley of the Loire, and from there on rnns through a paradise of gardens, vineyards, villages, villas, and cultivated fields. Near Blois the soil shows two to three feet deep on a yellowish rock. The vines on the hillsides are staked up 21/2 feet or so. At Beaugency the vineyards are on light and dark brown soil, with some gravel, a strong land.

### VINE GROWING IN PORTUGAL.

In most parts of Portugal, says a correspondent of the Citrograph, the viue is left ractically to its own devices as a natural reep r. The exceptions are chiefly in the Port wine district, the mountainous region sixty miles up the Douro, and in some parts of Beira. The vines generally are let to grow their natural length, either on walla or on aquare trallises the height, or more, of a man above the ground. Often they are trained, in the old Roman style, upon trees whose leafy branches are trimmed to let in the sunshine. This is considered by many to be the best system for a warm region like Portngal, while the French and and German bush system does better in a cooler country, where the refracted beat from the soil is desirable. It is considered that the long-trained vine produces more wine, and is safer from the attack of the phylloxera, because the roots push down helow the reach of that pest. It is concluded, however, that the shorter training produces better wine in most cases. The English consul at Oporto has recently made a voluminous report to his government on this subject, nrging the adoption of the Portugese system by the wine growers of Australia. He says the natural "gadding" growth is the least expensive, the most productive, and the most reliable for dry weather crops. If the wine is thinner and less ripe, the taste for it can easily be cultivated, he argues, as it is purely au acquired and conventional one. This advice is hardly to be relished by wine growers of English stock, who naturally despise a "thin" beverage.

## A BLOOMING DESERT.

The Colorado desert is probably destined to furnish early grapes for our Eastern markets. At Indio station, on the fifth of this month, the writer saw aweetwaters as large as pess, and grape shoots from six to ten feet in length. At that time there was scareely a blossom on a grape-vine in this valley. These few vinea, in the R. R. company's gardeo, are being earefully watched by San Francisco capalists, and some mammoth vineyards will probably dot that section of the Colorado desert in the near foture. Indio is a few feet below the to be on aliotic subsoils, impervious to water, and hence inclining to be too dry on slopes and too damp in flat places. This difficulty is remedied by deep cultivation,

#### WINES.

#### Their Characteristics and Adulterations.

(Continued from page 41.)

The most propitions time for cutting the grape crop is determined by the mature of the wine to be produced. It may, however, by roughly stated as generally chosen in fine and very dry weather, at either the end of September or the commencement of October. For red wine it is customary to gather the fruit before the attainment of that point of maturity when the last trace of acidity disappears; whereas, for white wine, complete maturity and absence of all acid principles is an essential factor to suc cess. In most parts of France the harvested crop is thrown into the fermenting vessels without the removal of either the stalks, the seeds, or the husks. This is a circumstauce which exerts a variable and yet all important influence on the qualities of the wines. The stalks yield to the liquid a large proportion of tannic acid, or tannin, and a peculiar kind of bitter principle; the seeds impart tannin and small quantities of fixed oil; the hasks give a tannin of a special kind, together with large quantities of red, blue, and yellow coloring matter, and cream of tartar. These coloring matters, however, remain insoluble notil a sufficiency of alcohol to dissolve them has been developed by the fermentation, and we may therefore produce either white or deep red wines, or any shade b tween the two, by either totally abstracting the hasks from or leaving them in contact with the liquid during the course of this process. From a series of very interesting analysis of numerous specimens of these grape skins, Berthellot has shown that th y contain nearly twothirds of the total acid principle of the entire grape, and some late experiments of our own have more than confirmed his theory

Some California grapes were submitted to us, from which we expressed five gallons in the mass of skins which had been sub mitted to very heavy pressure, we found no less than 160 gramme. This fact is of very great importance, and deserves thoughful attention, inasmuch as it proves that in addition to their influence in the matter of color, the elimination or otherwise of the skin from the must, necessarily modifies the composition of the wine. If they are withdrawn immediately after the juice has been pressed from the fruit, the fermented liquor will be of a lighter shade, and, containing less tartaric acid, will have a lesser tendency to deposit or acidify. The practice of making red wines from completely mature fruit has been definitely abandoned by the most intelligent producers, because our enquiries into causes and effect have enabled us to demonstrate that such wines are invariably too sweet; that they lack fla vor and boquet, contain little tannin, maintain a slight turbidity, and have no keeping qualities. A mere glauce at such wines as Tokay, Muscatel, Port, Frontignan, or the products of any extremely warm clim ite-Sicily - Spain - Portugal-will exemplify this fact. The inhabitants of such conntries are naturaly of an indolent disposition, and, unimpelled to exertion by any of those necessities so essential to the natives of colder regions. find their chief enjoyment in the dolce far niente. They have never been in any harry to gather their crops, and have not only allowed their grapes to mature but even, in some cases, to partially dry up before cutting them from the branches. The result has been the production of wines,

call liqueurs, which are only drank in very small quantities at dessert, which cannot be regarded as wholesome, and which only find flavor or appreciation among women and children. To the connoisseur they have of course, no value, and with the progress of education and taste, they will be more and more displaced by those vintages of the Bordeaux and Burgandy type, which, made from unripe fruits, are cherished by all true lovers of wine for their exquisite flavor and delightful fragrance. To avoid a discussion of the various

modes adopted for cutting, gathering and housing the crops, which though interesting to ourselves, might prove tedious to our readers and therefore out of place in these essays, we shall assume that everything in this regard has been well accomplished, and that the crop has arrived without ac cident at the sheds or warehouse. Having been cast into the fermenting tans or tanks its subsequent treatment will depend upon whether we wish to produce white or red, sweet or dry wines. Let us endeavor to somewhat familiarize ourselves with different modes of treatment. In many red wine countries it is usual to detach the berries from the stalks before attempting to express their jnice; in other districts this detail is neglected. In all cases, however, the hasks remain in contact with the liquid; the time of their sojourn being determined or regulated by the shade of color required. For very dark red wines, they are main tained beneath the surface of the fermenting liquid by a network frame or cover, placed within the tun some inches from the top. This is probably the best system we have seen; it is certainly superior to that prevalent in Burgundy, of repeatedly breaking up the scum in order to resubmers the skins that have been brought to the surface with other extraneous matters by the escaping carbonic acid gas. Burgundians argue that they produce a deeper and much finer coloration, but we are personally convinced that even if this be the fact (which we do not admit), they also induce a tendency to rapid acidity from the causes we have referred to, and hence all other advantages are more than counterbalanced. The preliminary mode of treatment in white wine regions is essentially different from all this in every particular. Nor does this depend upon the color of the grapes themselves, since many of the deep red species (such, for an example, as the Bourgignon of France) serve as the basis of the best champagnes in the markets. To produce white wines, the husks, stalks and seeds must be entirely removed from the juice, and in order to effect this, the grapes, in stead of being tramped with the feet or otherwise treated en masse, are always submitted to pressure in a wine press.

Although the ordinary fermenting vessels or tans are commonly made of oak, it is not unasual to meet with large brick-work tanks built especially for the purpose and lined with Portland cement. This latter, however, is a modern introduction of very doubtful value, and is, in our quinion, to be deprecated, not because there is immediste danger of the cement becoming soluble in the wine, but because we have found that, in practice, it offers obstacles to the separation and deposition of the tartar The tun or tank must, of course be left open at the top to allow a free passage to the escaping carbonic acid gas, and should never be of too large or unmanageable size. In our own experience, we have met with the best results from the use of

day to till. With nothing larger than this have we ever been able to cosur simul taneity of action throughout the mass. either at commencement or at the end of fermentation. In grapes that have been harvested during extremely warm weather, this fermentation commences immediately after they have been cut, and, with proper subsequent regulation of the temperature, should be in full activity at the end of 24 hours. This regulation of the temperature, therefore, becomes a very important item, and it has in fact been proved by long observation and experience, that it is proper to commence at 55 deg. Fahr, as a minimum, both for the must and for the surrounding atmosphere, and that the liquid itself should never be allowed to exceed a maximm of 90 deg. Fahr. Beyond this point the glucoses are decomposed in other substances than alcohol, and the latter body itself becomes volatilized and passes away in the form of vapor, with the carbonic acid. The arrangements as to temperature, adopted by most large wine growers in France are very simple. They provoke a free draught through their sheds or cellars, and constantly sprinkle the tuns or tanks with cold water when the atmosphere is very warm, or surrounded them with either plaited straw or woolen blankets when it is somewhat cold.

The duration of the primary or, as it is very aptly called, tumultuous fermentation, varies with the temperature at which it is allowed to proceed and with the amount of sugar to be transformed, from four to twelve days. These at least, are the average limits, which, speaking in a general way, have given us the best results; and, although in some special cases we have followed the advocates of a much longer period, we have never derived any ad ditional advantage, but, on the contrary have invariably either seriously impaired or altogether spoiled the quality of our wine. The exact time at which the fer mentation ceases is very easily determined: it is evidenced by many commonplace signs, and is recognized without the aid of any scientific knowledge. There is therefore no legitimate excuse for any gross mistakes. even when they are made by the most ignorant of the peasantry. All those who have ever made wine on a large scale, have observed that when the fermentation sets in, the escape of carbonic acid gas, caused by the decomposition of the sugar, is so abandant, as to make the whole liquor bubble up as if it were boiling. In proportion as the sugar is destroyed the elevation of the gas decreases, until finally it is altogether suppressed; while at the same time the large mass of frothy senm which it has borne up with it, being no longer sustained. collapses and falls flat upon the surface Accompanying this infallible indication is the no less certain testimony of change in temperature, which when the chemical action has come to an end, falls to the surrounding air. Should neither of these proofs be deemed sufficient, the test of specific gravity will settle all doubts, for with the acquisition of alcohol and the loss of sugar, the weight of the liquid will have been so deminished as to show no more, and perhaps even less, than 0° when tested with Beaume's areometer. These remarks are necessarily brief, they may perhaps be superfluous, but we have been induced to make them to show that the natural fermentation of grape juice is a very simple process, devoid of all technicality, and that

carried on in France and G rmany, by the humblest cultivators of the soi. F r the production of sweet and white wines, esmeially of such as are destined to ul imate ly become champagnes, the method of conducting the fermentation process is, of course, entirely diff rent. In their cas the wine is run off as soon as half the augur has been transformed (readily determined by the arcometer), and either rapidly and continously agitated with mechanical stirrers in an open tub or male to repeatedly flow from a high vessel into a lower one, in order to taix in with it the greatest possible quantity of air. A corrent of sall hurons acid is next either pumped through it. or, if necessary materials for this purpose be not at hand, made to mingle with it by burning sulphur imm diately below it, as it flows in a stream from one tun to another. In the district of Frontignan, near the well-known town of C tte, in France, once so famons for its Muscat, but now, like so many districts, devastated by the phylloxera, we found that this killing of all germs by salphurous soid was regarded as unhealthy and that it had been abandoned. It is preferred to stop the fermentation by adding a given quantity of alcohol to the liquid at a convenient period of the process, and then to draw off the wines and allow them to clarify in separate vats. As to the commendability or otherwise of any of these practices, we shall have plenty to say at a later stage of our discussion; for the present we prefer to address ourselves first of all to an inquiry into the nature of the chemical and physical ph nomena induced in unadulterated grape juice during the various processes we have so roughly outlined. To enter into the intricacies of such a question would be futile and profitless and would necessitate a greater tax opon the knowledge and attention of our readers than we have right to impose; we shall consequently content ourselves with the attempt to convey a general idea of the conclusions that a lengthy exp rience has enabled us to form. The rough and ready, or grosse mode explanation of the chief reactions has hitherto been, that the principally important change from most to wine results from the transformation of the glucose into alcohol and carbonic acid. Like most other explanations of a similar superficial character, this one, while strictly founded upon fact, is sufficiently incomplete to be not only worthless, but altoghether misle ading to the uninitiated. The reality, as discovered by modern science, is that, presuming two parts of sugar are capable of pr ducing one part of alcohol, there is never enough spirit found, even after the most complete and lengthy fermentation, to account for more than 55 or at a m eximum 90 per cent, of the sugar originally contained in the grape juice. As from I to I per cent, invariably remained analtered in the wine, and as it is generally allowed that say one per cent, may be lost in the form of evaporated alcohol, e rried away by the carbonic acid, it follows that some 9 or 10 per cent, must have undergone some other changes. As to what these were the world was in utter darkness until only a few years ago, when, thanks to Pasteur and to Schmidth, the light was let in, and the missing link was found. We now know that these percentages of sugar are far from being lost-that they have been transformed into bodies of a most complexed naturethe very bodies, in fact, which give to wines their most unvarying and distinctive the mannfacture of excellent dry table wine characteristics. It is by the study and the which it would be almost more rational to tuns which will not require more than one can be carried on here, as it has long been recognition of these substances by unfailestablish the standards of quantity to which we have referred, and it is their absence. or excess, or existence in unnatural proportions, that marks the distinction between a natural and an artificial wine. Let us try to make this still more clear, in order that we may completely understand why recourse to analytical chemistry has at length hecome a factor and a necessity in the wine

#### VEGETABLE RESOURCES OF THE WEST INDIES.

Address by Mr. D. Morris, M. A., F. L. S., delivered before the London Chamber of Commerce.

For the last ten years I have been closely connected with the development of sub jects of a betanical, horticultural and agricultural character in the West Indies, and I am glad to offer a contribution towards a better knowledge of the circumstances of these islands. I do this, chiefly, in the hope that a consideration of these circumstances will enlist the interest of the Loudon Chamber of Commerce, and of other bodies in this City of London whose concern is to deal with the productions of plant life.

I purposely confine myself to speak of the vegetable resources of the West Indies, in order that my remarks may be whelly directed to this particular department in which I have chief knowledge and experience, and also that I may at once indicate the direction in which I believe the future prosperity of these islands to lie. The mineral resources of the West Indies appear to be comparatively unimportant. The true wealth of these islands evidently is bound up with the products of the soil, and in such horticultural and agricultural pursuits as are directly connected with plant life. This has been so in the past, and there is every indication that it will be so in the future.

The present condition of productive industries in the West Indies is addmitted to be far from satisfactory. It is needless to dwell on the political, social and fiscal conditions which have operated to bring about the depressed condition of these industries. It is more to the purpose now to realize that these islands are geographically so well placed as to be within reach of the best markets in the world; that they possess both soil and climate that are possessed by few tropical colonies; that they are inhabited by a laboring population rightly controlled and judiciously managed, capable of producing ten times their present exports, and that they have England, the richest country in the world, to aid and support them. If they once realized these facts, and overcame the spirit of despondency which has so long possessed them, their condition would soon be improved.

These are the nearest of our tropical posaessions, as also the oldest In the past they yielded such wealth as greatly contributed to make the mother country the commercial mistress of the world. But this wealth was yielded under circumstancea which were exceptional, and which have now entirely passed away. They had a monopoly of the markets of the world. "Prices then ruled artificially high as they now rule artificially low." But, although the markets for West Indian produce are so greatly changed, it must be borne in mind that the islands themselves as regards the capabilities of the soil, their

ing tests that we have been enabled to are exactly where they were. Under ordinary conditions the keen competition of to-day should not affect the West Indies more unfavorably than it affects other tropical countries. The chief reason why the competition is more severely felt in the West Indies than elsewhere is to be found in the fact that they have most bravelybut in many respects most unfortunatey-staked their prosperity on an industry which brought them into competition with countries equally well placed with themselves as regards soil and climate, but perhaps better placed than they were as regards capital, as regards labor, and such mechanical appliances as were specially suited to the industry. If they had had other large industries to fall back upon, the depression in one would not have been so severely felt. But the whole attention and energy of the islands had been so long devoted to the production of sugar, that was not surprising that they could not easily change. Even at the present time a capital of something like filty millions sterling is said to be invested in the sugar industry of the West Indies. and it would be fully to suppose that this capital should be sacrificed unless it was felt to be absolutely impossible to sava it. I fully recognise the fact that the chief business of the W.st Indies is that of sugar. I also realize that the people are nsturally reluctant to relinquish an indus try, which, in the course of more than a century has become thoroughly established among them. They are familiar with all its details, and much of the sea-board land in the West Indies is perhaps better adapted for the cultivation of the angarcane than any other plant. Having admitted so much, it is, however, impossible to overcome the plain teachings of facts. No colony or set of colonies can nowa-days be permanently prosperous if entirely dependent upon a single industry.

> There are now such rapid developments in production, while distribution is so highly erganized by means of the telegraph and steam navigation, that a good market anywhere can remain good only for a certain time. Good prices quickly stimulate increased production in tropical as well as in other industries. Hence it is more important than ever for these islands to provide for the fluctuations in prices, and fortify themselves against a falling off in demand of a single product. This can only be done by a variety of cultures. This, I venture to believe, must be the future policy throughout the West ludies.

It is necessary, however, as a first step, to place the sugar industry on a satisfactory footing. If, as there is every probability new, the continental augar buunties are abolished, the West Indian planters will feel that one at least of the depressing influences, with which they have had so long to contend, will be removed. It is too soon yet to estimate exactly what influence the abolition of bounties will have upon the sugar industry of the West Indies. It is evidently a step in the right direction, and those who have taken part in the negotiations, and assisted in securing the results so far attained, deserve the thanks of all colonies interested in the sugar-cane industry.

We may assume that eventually a better market will be obtained for colonial augar. It would, however, he very unwise to count too much upon this. The area of production of cane-sugar is now so vast, vailable labor, and their general resources and it is capable of being so easily in beneficial in other plants. If the sugar- are as well understood in the West Indica

it is thought, might be disposed to admit means of benefitting the industry. West Indian sugar free or at a reduction of duty, on condition that the Islands removed the duty on American food stuffs. Prubably the islands by such a treaty would gain more than they would lose. It must be remembered, however, that cane sugar is being largely produced in the States already, and that the cultivation of beets are now being attempted there. We have heard also a great deal lately of Sorghum sugar. Of the future of this we know nothing. It is possible, therefore, that the American market may not prove so advantageous to these islands as is now

Apart, however, from the abolition of sugar bounties, and securing a reciprocal treaty with America, it is well to point out that a permanent improvement in the sugar industry of the West Indies is a matter very much in the hands of the planters themselves. By planters, I include proprietary interests at home, as well as those resident in the Islands. Many efforts have already been made to economize the cost of production. But in all the islands there is necessarily a concentration of all the purely manufacturing processes of sugar making, under what is known as the Usine system. This system possesses the merit that it keeps the purely agricultural work of growing the canes distinct from the purely manufacturing process of making the sngw. Where a large sugar making factory is worked with the best machinery and highest scientific knowledge, finer and better qualities of sugar are produced, while the cost is diminished.

At present, every small estate carries on its own process of sugar making. The machinery is often primitive, and the quality of sugar necessarily low. If groups of estates were formed to grow canes, and sell them at a certain rate per ton to the Usines, the results would be most beneficial to all concerned. Usines are already in existence in Trididad, St. Lucia and British Guiana. Many could be worked in Jamaica where at present not one exists. In all the islands the Usine system offers a solution of many problems connected with the West India augar industry. Should there be a revival in the industry, this is one of the first points that deserves attention. There are, of course, many isolated estates where the Usine system is not practicable, and in Jamiaca there are estates making the best qualities of rum that would possibly find the Usine system altogether unanitable.

Much of course depends on the kinds and varieties of canes kept under cultivation. The West Indies have been singularly free from diseases amongst caues. No destructive fungoid or insect pests have appeared among them as in Mauritius and other angar producing countries. canes have been hardy and productive. Local deteriorations have un doubt arisen through poverty of soil or other unfavorable circumstances. This latter has been sought to be met by the introduction of new varieties of canes from other conntries. It is well known that the sugarcane does not produce seed, and hence it is impossible to improve it by any processes of hybridizing and crossing found so

creased, that in a few years the competi- cane was capable of being improved purely tion may be as keen as ever. A hope is by cultivation and experimental processes, still, I believe, entertained of a reciprocal like those which have improved the beet, treaty with the United States. The latter, this would be one of the most effective

> New varieties amongst augar canea arise generally in the form of bud variation. These occur very seldom, and possibly amongst several thousand acres of canes. not one cane will be detected as exhibiting any well-marked characteristics. Planters, however, should be keen to mark any canes that show a departure from the types, and cultivate them separately.

At present we have to fall back on the varieties of canes possessing certain wellmarked qualities which have arisen under natural conditions in other countries, and we introduce these in the hope that they may prove richer in succharine properties, than those already cultivated. The rest is in the bunds of planters, engineers, and chemists, the latter of whom are especially charged to extract from the canes all the sugar they pessess. This problem has not yet been solved in spite of all nur applinces. Possibly at the present time no part of the world is so well provided with different varieties of canes as the West India Islands. Since 1870 an experimental plantation with some 90 to 70 varieties of ugar canes has been maintained under he charge of the Botanical department of Jamaica. The canes were obtained direct from Mauritins, Queensland, Southern United States, and some from Kew. These were grown in quarter or half acre lots. Their characteristics were noted, their merits carefully invested by planters and chemists, and the results published for general information. This experimental plantation, maintained for I8 years, is still in existence. The canes grown and propagated at Jamaica have been distributed net only in the island itself but throughout the West Indies. It is necessary here to emphasise the fact that since 1870 numerous varieties of sugar canes have been introduced by the Jamaica gardens; they have been propagated by them and distributed by them not merely in a cane or so of each variety, but in qualities of hundreds and thousands to individual planters. At the Trinidad gardens the experimental culture of new canes was began in 1872. In 1884 farther supplies of new caues were received from Kew and distributed in the island. At British Guiana in 1881, soon after the gardens were started, new canea were introduced for experimental culture, some by the Government and others by the Hon. A. C. McCalman. The Government analytical chemist has carefully examined and reported upon them in a document of considerable interest and value. The Betanical station at Barhados, established in 1885, with about 90 acrea of land attached to it, has been wholly devoted to the experimental cultivation of new sugar canes. These were received from Jamaica. The experiments here have been directed not only to the relative merits of new and old canes, but also to the effects upon them of certain manurea. The reports have been prepared with great care by Prof. Harrison, and published by the Government of Bardades, and widely reproduced in the press. This is a brief outline of what has been done from the hotanical and chemical side to aid sugar planters in the West Indies. It is a record of aervice which, as far as I am aware, is unique in the history of the sugar-cane industry. The details of cane cultivation

variety of cames are well able to grow them and indeed are in a better position to judge of their actual merits than any one else.

Although the native tlora of the West Indies includes many valuable plants, it is remurkable that nearly all the vegetable productions of these islands at present are derived from exotic plants introduced from elsewhere and kept under cultivation. The augar cane itself is of Asiatic origin. Its introduction to the West Indies is clearly traceable in historic records. What is called Otaheite cane, also known as the Bourbon cane, was introduced to the English islands at the end of the last and the beginning of the present century. Captain Bligh brought the sugar cane and bread-fruit from the Pacific in His Majesty's ships in 1796. These and other plants on arrival were carefully tend al, and distributed from the Jamaica Botanic Gardens by Wiles, a gardener selected by Su-Joseph Banks. The introduction of coffeto the West Indies we owe to the French Logwood was brought from British Hon duras to Jamaica by Dr. Burham, a botanist, 1715. The export of logwood from this island now exceeds that of Hondaras and amounts to £190,000 ununally. Dr Clark, the first island botanist, brough with him to Jamaica the jujube tree and the champhor tree. The first mango plants were brought by Lord Rodney, while Dr Marten in 1788, introduced the clove and black-peppea. Jamaica giuger had its origin in the East Indies. Caeao is indigenous to none of the islands, and in Jamaica, at least, owes its recent increase in culture to the action of the Botanical Gardens The first seeds and plants of cinchona and tea cultivated in Jamaica were sent out from Kew. Numerous fibre plants, cardamoms, peppers, india-rubbers and spices have been supplied to the islands through the instrumentality of Kew and distributed by the local gardens. The records of these and similar introductions are easily accessible. There are mentioned here only for the purpose of indicating the important part which introduced plants generally have taken in establishing successful iudustries in the West Indies.

With the exception of pimento and some timber and dye woods, it may be generally assumed that all the industrial plants of the West Indies, as we know them at present, have been brought from other countries. Hence we realize the useful character of the duties assigned to the Botanie Gardens, specially charged with work of introducing and distributing such plants. It is only by such means that the islands can be supplied with the best sorts and kinds of plants suited to their circumstances, and they can be so equipped as to hold their own amidat the keen competition of other countries.

For such purely agricultural communities as exist in the West Indies, a well organized and efficient Botanical Garden is by no means a luxury. It should rather be regarded as a necessity. It may be useful to state what are the functions of such a garden. The work undertaken by it should be primarily of a scientific character. It should devote itself to the investigation of the indigenous plants of the island, and to their proper identification and classification. It should supply information respecting those possessing medicinal, economie or industrial value, and keep records of their uses. It should keep both living and dried specimeus of such plants con-

that the planters once supplied with a good desire to study them. When so much is done as regards the native plauts, a botanical garden by means of correspondence and exchanges with kindred institutions should introduce valuable, rare and desirable plants from other countries, and cultivate them for the observation and instruction of the inhabitants. On the purely practical side, and where other means are wanting, a well organized garden should raise valuable plants by seeds and cuttings, and distribute them with cultural informtion for the purpose of establishing new industries.

Up to within the last ten years, the whole of the West Indian islands possessed only two Botanical establishments, one at Jamaica and the other at Trinidad. The gardens at Jamaica were established in 1774, and the records of their usefulness furing more than a century, fully justifies he important place assigned to them. To apply to them the words of Bryan Edwards they "have supplied subsistence for future p nerations and furnished fresh incitem, ats o industry, new improvements in the arts of cultivation, and new subjects in comnerce." I have a'ready alluded to the emarkable results which followed the inroduction of logwood to Jamaica. It may be useful to refer to unother industry practically created by the botanical gardens. In the year 1824, it was laid down as one of the objects of the Botanical Garden at Jamaica, that it should devote attention "to the investigation of many unknown untive plan's of the island, which from the properties of those already known, it is reasonable to refer would prove highly benefical in argineuting internal resources by supplying various articles of food, for medicine, or for manufacture . by means of which great commercial advantages might be obtained; among others,

It is interesting to note, that while no dve-woods whatever were exported from the island in 1824, a small trade of the value of £1,859 was started in 1833, which since that time, has steadily increased, until now it has assumed relatively, large dimensions. The report of dye-woods in pended entirely on its own resources. 1870 reached a gross value of £112,313 ("Jamiaca Handbook," 1854-85, p. 375). Similar results in more recent times pave the cultivation of fruits that have been neglected in Jamaica. The export of these in 1875 amounted to £14.912, in 1884 the total value had increased to £273,534.

Results such as these, although obviously of a special character, justify the attempt involved. In the Leeward islands, comnow being made to improve the circumof the extention of botanical efforts. They Islands, although the scheme was accepted afford also a striking instance of what is capable of being accomplished in these islands, when careful investigation and judicious and enterprising efforts are commands of the outer world.

The services of botalists in creating important industries have not usually received the attention they deserved. chemists have done, but the work of hotanists is apt to be overlooked. In nearly all is based on agricultural parsaits, botanists local industries. The Leeward and dried specimens of such plants con-secrets. The industries of the West, no dad. At present they are completely cut tomato se-veniently at hand for the use of those who less than the valuable tea and cinchona off from all means of starting new indus-

to botanists for their initiation and development. Few realise these services; but the results are no less striking and suggestive as regards the possibilities of the future.

What has been done by the Botanical Gardens at Jamaica, and is being dune by the excellent gardens at Trinidad and British Gniana, indicates a very important means whereby the other islands may be b. nefitted. The latter islands, it must be remembered, are small and comparatively isolated. Their smallness and isolation have, indeed, been the chief operating causes in their backwardness. To assist them in developing industries saited to their circumstances, a scheme of Botanical Stations has been devised, which is now partly in operation. This scheme was first suggested in the Report of the Royal Commission of 1883. It was strongly aupported by Sir Joseph Hooker, and accepted by the local legislatures with the approval of the Secretary of State for the Colonies. The scheme provided for the establishment, in each island not already supplied with a Botanical Garden, of a small inexpensive establishment called a Botanical Station. The d. tails of the scheme have been already discussed, and may be known to many

The chief points involved are the maintainance of a nursery and a depot for plants in each island, and the diffusion by means of bulletins of practical hints as regards their treatment and cultivation. 'The stations would be affiliated either to the Botanical Gurd us at Jamaica or Trinidad, and it would receive from these gardens seeds and plants on payment in accordunce with an established schedule of prices. It may be gathered that such a scheme of botanical stations for the lesser West Indian islands seeks to meet the the various vegetable dyes claim particular special circumstances under which they attention as promising a fruitful field of are now placed, and to do so in the most flexible and economical manner. It is evident that by the adoption of such a scheme, which practically amounts to a botanical federation for purely economical purposes, these islands will be enabled to act much more thoroughly and economi, cally, as a whole, than if each one de-

The government of Jamaica has cordially given its assent to the seheme, and stations are already established at Barbaattended the increased attention given to dos and St. Lucia, and a botanical garden at Grenada. Unfortunately the island of St. Vincent and Tobago, which most require the services of a botanical statiou, are said to be too poor even to afford the cost of so moderate an outlay as is here prising Dominica, Antigua, Montserrat, stances of the West India islands by means St. Klitts and Nevis, and the Virgin by the local legislation in 1885, it has not yet been put into force. The backward condition of Dominica, which is third in size of the British West India Islands, is bined to fit local circumstances to the de- simply deplorable. The great part is still unopened forest. It possesses such natnral resources of soil and climate, that nothing is wanting but the right application of capital and energy to make it one hear a good deal of what engineers and of the most prosperous of our tropical dep ndencies. It finances are said to be so low at present as not to admit even of the our colonial possessions whose prosperity simplest attempt hing made to develop have been the pioneers in wresting from should possess a well-organized Botanical nature some of her most jealously guarded Department similar to Jamaica and Trini-

industries of the Last, are largely indebted tries, and the local policy which has thus isolated and crippled them, is alone responsible for their present unsatisfactory

> I conceive that no mission could be nobler and worthier for those interested in these islands, than to bring a prosperity to them at all proportionate to their resources of material wealth and natural

(To be Continued.)

### WINE AS A BEVERAGE.

Dr. Felix L. Oswald, in Popular Science Monthly, says: "It is, indeed, a remarkable circumstance that in the home of the hest wine-grapes, in Greece and Southern Spain, drunkenness is far less prevalent than in Scotland, or in Russis Poland, where Bacchus can tempt his votaries only with nauseous vodka." To this very significant observation, from a great authority, it may be added that intemperance, in all grape producing and wine drinking countries, is far less than in the nou-grape producing, and rum, whiskey and gin-drinking countries. Therefore, all rational temperance men, like those of Frauce and Germany, should advocate wine as a beverage, to the exclusion of distilled alcoholic liquors; and, like them, whenever it may be necessary, pledge the people against their uses in social life, as prona to lead to appaling abuses, such as now disgrace, in many nations, juclading our own, the civilization of the age in which we live.

## BELT SUGAR IN LIROPE.

A continental authority has calculated that the production of sugar from beet root grown in Enrope during the year 1887 will show a very decided reduction on the previous year. From the figures for the past year-which are of course, more or less approximate-it is calculated that 275,000 tons less of beet root has been grown in the beet root growing countries of Europe during 1887 than in, 1886. The decrease is not confined to one country, but is general the single exception being Belgium, which has, it is estimated, produced 100,000 tons last year, as against 91,000 tons in 1856. In Germany and Austria tha decrease amounts in each country to about 100,000 tons. Russia shows a deminished production of 75,000 tous, while France, more fortunate, comes within a few thousand tons of the previous year. The total production of beet root in 1856 was 2,625,000 tons, and last year it is estimated the crop will not exceed 2,35 ),000 tons.

### Vitality of Seeds

A horticultural authority tells us that seeds will germinate as freely the second year as the first. The length of time for which seeds can be relied on varies considerably, according to the conditions under which they are kept. A cool, moderately dry place is the best for the preservation of seeds; moisture and varying temperature are detrimental. Beans, pess, pepper, earrot, corn, egg-plant, okra, salsify, thyme, sage and rhubarb are safe for two years, asparagus, endive, lettace, parsley, spinach, radish, are safe for three vears: eroccoli, cauliflower, cabbage, er lery, turnip, are safe for four or five years, beet cucumber, melon, pumpkin, squach and tomato seeks, will grow when six to ten TREATMENT OF THE VINE DURING ducer, but which have no bearing whatever VEGETATION.

Varieties of Vines to be Selected for Cultivation.

Each variety of vine generally preserves its main characters wherever it can be planted so as to produce fruit. Its principel characters appear also in the wine made from that fruit. Exposure, territory, and climate may make a viue poor or rich, but it will never transform it into anything else; the Muscat will not become Cabernet, the Pinean will never become Gamay, the Riessling will never become Chardenay or Tokay. Notwithstanding this remarkable and unquestionable fact, the idea that the variety of that plant governs the product has always been applied only to the socalled great growths. As Guyot expresses it, the idea of the growth has absorbed the idea of the vine, while in reality the vine Plant Chateau Lafite with Gamay or Gouais, and you will have a detestable wine. Substitute the Gamay for the old vines of the Cloa Vougeot, and you will have wine at 60 francs the piece. Take the Cabernet Sanvignen from the Haut Medoe, or the Franc Pinean from the Bourgegue, and plant it at Madeira, at the Cape, in Spain, in Algeria, or at Auxerre, and everywhere you will obtain excellent wines, which will recall the wives of those countries from which you have taken the plants. The exposure, the climate, the high cultivation, and the mode of making the wine will of course influence their lightness, their richness, their taste, and their honquet; but the Pinean, wherever grown, will reproduce the qualities of the Burgandy wine, and the Cabernet, wherever grown, will recall those of the Medoe. The Riessling, whether grown on the Rhine, in the Tyrol, in Creatia, or at the Cape, will always recall the qualities of the wice of the Rhine. The Duc de la Vittoria, Espartero, caused Bordeaux grapes to be planted in his vineyards in Navarre. The wine there produced is true wine of Bordeaux as to taste and richness, but it has an after taste which is sour and bad, and which is found in most Spanish wines. This taste is produced by the methods of preparation and keeping adopted throughout Spain. In the Auxerrois there was a remarkable observation made in the year 1858. The wine made from Gamay was sold at 50 to 60 francs the piece of 250 litres, while the piece of the wive made from Pineaux was sold at from 300 to 400 francs. It has been alleged against this experieuce that the Piueaux was grown in favored slopes, but that is really a groundless objection. The same slopes, if planted with Gamsy, would soon loose their reputation, and their wine would sell at perhaps 15 francs higher than the Gamay wine of common vineyard. It is therefore quite properly that Guyet insists, and we insist with him, that each wine, no matter from what country it comes, should carry with it the name or names of the grapes from which it is made. Thus one should never say "wine of Burgundy," but "wine of Pineau from Burgundy." One should not speak of "Bordeaux wine," hut of "wine of Cabernet from Bordeaux," or "wine of Verdet," One should speak of "wine of Fins Plants of Champagne," and not of "Champagne wine." In the Bourgogne there are produced, side by side on one and the sams slope, excellent wines from good varieties of grapes and had wines from had varieties of grapes. These varieties are frequently mixed in the vineyard which that you can get in your neighborhood. he was, indeed, prond, as well he might tons, again may be justifiable in the eyes of the pro-

on the ultimate product as regards the consumer. The Germans have practically recognized this long since. They call their Riessling wine "Riessling," in order to make fully sure that it is to be understood that this wine comes from Riessling only. The Germans also speak of "Tromine," and we may rely upon it that these ore pure wines, because their characters are so striking, and an admixture of other grapes would produce so infallible a deterioration in the quality that only folly could think of effecting such a mixturs. If we consider the great growths and the history of their establishment, we shall always find that they were originally produced by intelligent persons who planted favorably situated vineyards with excellent vines. The excellence of the producs was gradually ascribed to the situation only, and the effect of the particular cultivation of the species of vine grown was forgetten. We hav now to do the reverse. We have to wake up producers, wins mer hants, and consumers to this great law, that the variety of the wine determines the the quality of wine, unless he has, at the same time, a guaranteed statement of variety of vine from which this peculiar wine has been made. We therefore advise that the finest variety of vines should be planted in all places where it is intended to establish new vineyards. No producer needs to fear that the finest varieties will give him less produce than the coarsest, if he will carefully adept the method of training most adapted to each. During this century many attempts have

been made to determine the relative value of the fine varieties of vines. In the yesr 1819 the Duc de Decaze founded the Ampelographic School of the Luxembourg under the direction of Mr. Hardy. Here there were brought together varieties of vines from all parts of the world, but it was found quite impossible to make use of any of them. How is wine to be made from two plants, and how can the value of a plant be determined except by its produce, well treated and well matured? The collection was a very useful botanical one, but its viticultural value was nil. We have ourselves carefully examined the whole of the vines in that collection for botanical and special chemical purposes; but we are nevertheless obliged to say that it has never fulfilled any of the intentions which were connected with its establishment. Viticulture remained the same throughout France, and even the propagation of good or bad vines were left uninfluenced by this great effort of Decaze. This collection of vines was imitated in various parts of the world. There was one made at Baden, and another at Heidelberg, in which Metzger, the betanist, took so distinguished a part, and which has served as the basis for the monograph on vines by Ven Babo. There is a collection at Gartz, which was made under the auspices of the late Archduke John; and another at the Closter Neuburg, which serves as the botanical school'of the Agricultural Institute of that convent. All these have undoubtedly augmented the knowledge of vines in general, and many intelligent persons have thence drawn stock which they have multiplied to advantage; but on the whole, viuification has not been thereby improved to the desired extent.

Gnyot says to viticulturists: "Plant your new vineyards with the finest vines

well in your locality. You know their qualities and faults better than the propricties or men of science. Take the best plants, cultivate them carefully, adopt the mode of cutting which makes them fertile, give them the mannre which is necessary. and you will find that the revenues of your vineyard double; you will find that while before your vineyard nourished only one family, it will now feed two. The salaries will augment, the land will get richer, and you will contribute to increase the wealth of France."

To the proprietors he says: "Buy the canes of the reputed vineyards, of your neighborhood; collect the canes of the finest varieties of vines in your own vi. 8yards, plant them in nurseries, and train up new plants which will enable you to replace vines which have died in your established vineyards or to plant new vineyards all together. Do not provine, but fill np all places which have become vacant by twoyear plants from the nursery. Carry earth and manure to the extent to which the vineyard requires it. Maintsin your vines with trunks, and cut them upon a fruitbranch and a wood-branch. Do not spare hand labor, and you will find that your wines will be double in value, and that their quantities will be as great as that produced by the coarsest vinea,"

To the Government M. Gnyot says: Make yourself the instrument of collecting all the canes of the best growths of France immediately after the cutting; plant them in nurseries, and you will have in two years, at a very small expense, millions of vines. If each thousand of these vines be seld at five franes, the revenue will amply cover your expeuses. Create in Algeria, in Laudes, in Sologne, in the Champagne, model vineyards and nurseries, from which the deserts which are so close to all these places could be populated; and after ten years the capital employed will return you 10 per ceut; the colonies will be fixed, aud the wines of France will be bought by all the world. If to these immediate means you superadd the importation and study of foreign vines, and carry on their treatment to the completion of the precess of vinifieation, and you will establish the science of viticulture and cenology on a definite lath fence above narrated. and solid basis."

#### BAMROO FENCES.

The fences of the United States, writes W. A. Sanders in the Rural Press, are valued at \$4,500,000, a sum greater than the cest of all the buildings in all of the towns and cities. A good feuce is a permanent improvement. The question is, which is the cheapest and hest fence? Farmers are beginning to learn that to build the ordinary rail or plank fence requires ten fold as much material as is required to build the woven wire pieket fence, which is equally serviceable, durable, and far more ornamental than any other practical farm fence; it is not dan. gerous like a barb wire. Many an animal has been injured with the barh wire fence, that with the wire picket feuca would have heen uninjured. And here I must tell a little story. A friend of mine engaged in ftock raising procured a car lead of laths and set about feueing his place according to the latest improved methods. As the heaptiful lines of fence were extended forty reds or more per day by each machine, run by two men, costing less than half what any other good fence would cost he was, indeed, prond, as well he might tens, against 211,000 tons the same time

His stock left all other kinds of feed and gave their whole time to eating up the laths composing the fence. He looked at them more in astonishment than anger. Finally he got off his horse and thought he too would try the edible qualities of one of his laths. It was of a delicious saltiness. The explanation was simple. The laths were made from logs that were rafted in the salt water of Puget Sound, and had become saturated with salt. Whether by giving his stock an extra amount of salt he can save the balance of his fence or not, remains to be seen. Had he used pickets made from arundinaceae canes, he would have escaped losing his fence, and the scareely less annoyance of having his fence imperfect from knotty or cross-grained faths. I claim that this is the only plant of the bamboo, or of any allied species, that has proven of any value in California. The caues grow in dense forests to the height of thirty feet, with the diameter of from three fourths of an inch to two inches, and are coated with such a hard coating of silex that not even a jack rabbit will attempt to gnaw them. I estimate that an acre will produce enough foot pickets yearly to make six miles of fence. The fence is as easily made as if made of lath, is as light, and very much stronger. The machine we use here to weave it weighs thirty-four pounds, costs \$20 and with it two men can build, right in the field where it is to stand, forty rods of feuce per day for a cash outlay of ten cents per red for the three strands of wire that we use in weaving it. The plant is propagated readily by means of roots or cuttings. The first year's growth from roots will be large enough to make fence pickets, while from enttings you have to wait till the second year to get a growth sufficiently large. It will grow with a very small fraction of the moisture necessary to the growth of any bamboo or other allied plant. The fargest stems, when the septa at the joints are punched out, make excellent pipes to convey irrigating water under ground. You must keep the growing plants from hogs and other live stock, as they devour the tender stems and leaves with an avidity seareely surpassed by the eating of the

#### THE PHYLLOXERA IN FRANCE.

The Economiste Français estimatea the less suffered by French wine-growers through the phylloxers at 10,000,000,000 francs, or double the amount of the war indemnity of 1871. This loss is considered to be the principal cause of the commercial and agricultural crisis through which France has passed in recent years, while it has also reacted unfavorably upon the revenue of the railway companies. The sum total given above is calculated as fellows:

Totally destroyed, 1,000,000 hectares of vineyards; partly destroyed, 664,511 hectares, the loss on which is equal to the entire destruction of 200,000 hectares. Reckening the hectare at 6,000 fraues, this gives a loss of 7,200,000,000 francs, this must be added the deficit in the wine harvest, which may be approximately estimated by the quantity of inferior wine and raisins imported, and which in the thirteen years from 1875 to 1887 amounted to 2,800,000,000 francs.

THE STOCK of sugar in four parts of the United Kingdom on May 1st was 228,000

#### THE VINE AND ITS PRICE

I desire to present some thoughs, writes Dr. McCarthy in the Vineyardist, in two or three papers on the above named topic, in which the objective point will be to bring out something on the vine, although it may not be new to many of your intelligent readers. Something relating especielly to its history and uses among the nations of old. The subject is an interesting one as a mere study, and certainly is not one that can be compassed in an hour.

Among the vest number of plants which grow ont of the soil, ranging from the mess which covers the rock, or the "old iron-bound bucket that hangs in the well,' up to the cedars which crown with per petual verdure the lefty head of old Lebanon, none are more wonderful and none more useful in very many ways than the grapevine.

It was Sidney Smith who coined the expression-"bread is the staff of life," the trathfulness of which the world recognized at once, making a popular maxim of it, and so the saying has passed into common use, and is one which the world will not let die. Our great grain producers of the west realize the force of the saying, a they send to the markets of the world millions upon millions of bushels of wheat, to say nothing of the rye, barley, coin, onts, etc. The Chinese and Japanese re gard their rice in the same light, and millions of our Mengolian brothers on the other side of the globe, look upon it as the "staff of life" to them, and so it is. Down yonder in South America, on the high table lands of Chili and Pern, the quinou is the "staff of life" to multitudes. Quinos flonr is much like our out meal. There is far-away India and Egypt the dhurra is the "staff of life" to other millions. While in still other countries the sago pslm fornishes the bread of the common people and is their "staff."

But of all the fruits known or grown the banana takes the lead. It is an ornament to the garden or lawn, as it sends up its great, green, fleshy stem from which shoot out broad, shining leaves, that bend earthward in graceful curves. But it is more than ornamental for it supplies an article of food, where it is indigenous, that could not be dispensed with. To those people of the tropical latitudes the banana is the "staff of life." From any given area it is said to yield a larger supply of human food than any known vegetable. And it is not an uncommon occurrence for banana tree (it may be so called, though not really a tree) to yield in one season seventy-five pounds of fruit, while the average is generally from forty to fifty pounds Humboldt is quoted by Prof. Johnson as saying that "the same space of 1,000 square feet which will yield only 462 pounds of potatoes, or 38 pounds of wheat, will produce 4,000 pounds of bananas, and in a much shorter space of time. The bausna constitutes the chief food of millions of our race."

This paper might go on and speak of the date, the fig. the bruad fruit, etc., all of which are used for daily food in some land. But the grape is the object of this "study," which, like those just spoken of, is a most untritious and wholesome article of diet, and one which vast numbers of the human family, in different parts of the earth, have almost lived upon. If we, of this age and land, only knew it, the grape through its whole season might become a

master the difficulties of preserving it in a natural state, the season may last through nearly the entire year. In point of usefulness as a article of diet, the grape ranks with the banana and the bread fruit of the warmer latitudes.

any vine, for there are many of them, but the vine-the vitis vinifera of the botanist. This plant is doubtless as old as the creation of the vegetable kingdom, and hence began its career "in the beginning," when the fiat of the Almighty covered the earth with plant life, each species preserving its own identity to this day, according to the divine order in nature, as expressed in the first chapter of Genesis, where we read And God said, let the earth bring forth grass, the herb yielding seed, and the fruit tree yielding fruit after his kind, whose seed is in itself, upon the earth, and it was so. And the earth brought forth grass, and herb yielding seed after his kind, and the tree yielding fruit, whose seed was in itself, after his kind; and God saw it was good,"

The vine is supposed to have first come into use in the days of Noah, back of whom we cannot very well go, for in that oldest of books-the Bible--frequent mention is made couc ming it. Indeed, it is quite noticeable how much one may learn about the vineyard from incidental references to vine culture found in the writings of the Jesus.

We are told there, simply as a fact, that "Noah begau to be a husbandman, and he planted a vineyard; and he drank of the wine and was drunken. Not only was the vitis vinifera grewn so long age, but the juice of the fruit was expressed, and most likely the patriarch Noah was ignorant of the intexicating properties of fermented grape juice, and hence the difficulty into which he was plunged. But let us be charitable, and not condemn him for a sin ignorantly committed. He was only once caught in the snare, so far as we know. The grape is spoken of all through Jewish history. Away back in the time of the judges, 1,200 years before Christ, the scason of grape gathering is alluded to as a time when the people left their babitations in the towns and villages, and literally dwelt in the vineyards in tents and lodgesand it is feared from the statement made in one place that they indulged in more than merely unfermented wines, for we read: "And they went out into the fields, and gathered their vineyards, and trode the grepes, and made merry, and went into the house of their god, and did eat and drink, and cursed Abimelech."

They gathered the fruit and expressed the juice and drank it freely. But it was not always so, for the sins of the people brought upon them the anger of God. Hence, we read that in the times of national calamity their loughter was turned into mourning. "And gladness is taken away and joy out of the plentiful field; and in the vineyards there shall be no singing, neither shall there be shouting; the trenders shall tread out no wine in their presses; I have made their vintage shouting to cease

Among the Jews the hillsides were converted into vineyards, thus utilizing waste places, besides conforming to the nature of the vine. It was so as long ago as the days of the prophet, Isaiah, who lived mere than 700 years before Christ, 110 says: "My well beloved bath a vine-

built a tower in the midst of it, and also immigration that has since become so made a winepress therein, and he looked that it should bring forth grapes, and it brought forth wild grapes."

So the hills around Keuka and Seneca But the subject on hand is not a vine, or lakes may be called "very fruitful hills," especially about the 1st of October every

To be Continued.

#### A MAGNIFICENT WINERY.

Senster Stanford is building a magnificent winery on his famous Palo Alto farm. at Mayfield.

He bas long seen the necessity of "seasoning" our wines instead of sending them into the market in a raw condition, a custom which has long been prevalent amongst the California wine growers owing to their lack of storage facilities, and it is his intentions when the new winery is completed that no wine shall leave his cellars under three years of age; hence his reason for building the same.

The building, which is to be of brick, will be two and a half stories in height, and is to have two single story L's in the rear. The ground floor, which is to be used as a store-room, will be 169 feet by 1271, feet, and have a concrete bed five inches thick the distances between the floor and ceiling to be sixteen teet. The second floor, which is to be used as a fermenting room, will be thirteen feet high and have a double floor of one and one-half inch grooved and tougued pine laid crosswise, with two inches of tar paper between, which will give the floor great strength and prevent the leakage of wine to the room underneath. The top floor or attic, which will be utilized as a crushing room, will have a floor of similar constrution, and will be cleven feet high. The building itself will stand forty-eight feet nine inches in height and have several small gables in front with a large one on either side, whilst a cupola will adorn the centre, giving the place a very fine appearance.

An engine-house, 30x26 feet, will be built in the rear of the premises, with a concrete floor. The whole is to cost about \$29,000; that is, \$26,000 for the winery and \$3,000 for the engine-house.

The works are being carried out by Thomas Whitehead, who expects to have them finished by the 12th of July.

It is expected that the winter vintage at Palo Alto will yield something of 60,000 gallons. As each vintage reaches its third year it will be removed and the increasing vintage substituted under the new system, which will certainly give the new winery a reputation that our other large winegrowers might strive for with advantage to themselves.

#### POPULATION OF CALIFORNIA.

From the People's Cause, of Red Bluff, whose editor is evidently industrious and observant, we clip the following:

"It is not regarded as an over-sanguine estimate that the next census of the Government, to be taken in 1890, will show that California has about doubled her population in the ten years since the last census was taken. The national census of 1880, credited this State with a population of 864,694, and those who have watched the growth of the last few years have confidence in asserting that the next census will show a population of at least 1,500,000yard in a very fruitful bill, and he fenced Between 1870 and 1880 the increase, ac-"staff of life" to us; and as we learn to it and gathered out the stones thereof, and cording to the census figures, was about

planted it with the choicest vine, and 300,000, but the great tide of westward marked had not begun io those ten years.

> Four great overland routes have been finished since the last census was taken. and with their completion began the great westward trend of population.

In 1885 a State census was made by eatimate, and this gave California's population to be 1,079,000. The two years since that time have shown the greatest growth and development, in nearly all parts of the State, of any of the seven completed years of the decade. United States Surveyor General Hammond, from facta and figures seenred by him, estimates that on the first of the present mouth (March) the population was fully 1,350,000 with a fleating population in addition of at least 300,000. Taking the census is a little outside of the duties of the Surveyor General, but in making up his report in November and December, last he saw the need of knowing, as nearly as possible, the exact present population, that measures desired of Congress might be urged. All county Great Registers, for recent elections, were secured and overhauled, county books of statistics were examined carefully, and beside circulars asking for school ceusus, reports were sent to all county superintendents. From these responses and from all other means accessible careful estimates were made. The result was an estimated population December 1st, last, of 1,250,000, These figures were used in letters to Washington. "I estimate the increase since December 1st," said Mr. Hammoud, "at 100,000, and that I regard as fair and moderate. People here in San Francisco have no idea of the way parts of the State are filling up. Hundreds of settlers are coming to certain localities who never come near the city. They are filling up all that Shasta, Siskiyou and Modoc district in a wonderful way. They have come westward by the Canadian Pacific and have been pouring down into those northern countries. People are going in great numbers into all the Sierra foot-bill region. Down South the growth can hardly be imagined. The Government land offices are over run with applicants. Then there are people all over this State now, like files on a lump of sugar, moving about, waiting to find some place to stay. I went from Siskiyou to San Diego lately and asked everywhere about this class of people; I am convinced they number at least 300,000, forming a fleating population. People East have no conception of the state of things here, and in Congress you cannot convince them of our needs. I tell you this era of California will go into history-the period of the unprecedented westward movement between 1887 and 1890."

#### WINE AND TRON.

The Journal Pharmacie and Chemistre speaks of wine grown at La Seyne, Department Var. France, which is [probably the only one so far known which contains more than traces of iron naturally. This is, no doubt, due to the peculiar condition of the iron in the soil. On an analysis, the wine was found to contain in one lit r.

alculated as sulphume). ..

Among the latter 0.11 gia. of ferrie pxide. The usual quantity of iron found in wine varies from 0.01 to 0.02 gm. per liter.

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# Country Board Wanted.

A family in the city desiring to spend a few weeks in the country wish to find accommodations with some private family on a farm, within easy distance of a line of railroad. Address X. this office stating location, terms, etc.

THE ROUTE along the extension of the Donahue broad-guage road from Cloverdale to Ukiah is likely to be one of the most popular trips open to visitors and citizens of San Francisco. The country through which it passses has no equal in any other portion of the State for beauty and variety of scenery. Skirting along the banks of the Russian river for miles, with an occasional dash through the primeval forests of the gigantic red woods, the traveler is enabled to feast his eyes on glimpses of mountain scenery and pastoral peace in the bordering valleys, typical of the general topographical appearances of the more distant portions of the State, which can only be reached at a heavy expense of time and money.

The fishing and hunting in the vicinity is still good, the county having been hitherto free from the raids of the Philistine who has so effectually cleared the grounds along the more traveled and heavily settled portions of the route.

The road will probably be in full working in October next, and already the benefit of this improvement is being felt in the strengthening of prices of farming and vineyard lands along the extension. The soit here has always been remarkable for the prolific returns in either grain or fruit, and the difficulty of access and transportation has been the only bar to rapid settlement. Now, however, that this impediment has been removed, booming times may be expected with the development of the vast resources of a district so happily eithated for prosperous and pleasant homes.

A NUMBER of wine growers in the northern counties are doing a little trading on their own account, families in this city being supplied with wines by the ten gallon cask at the rate of fifty cents per gallon. The cask is shipped to the customer's residence, where the wine can be bottled off, a redoction being made for return of the cask at the rate of ten cents per gallon, bringing the actual cost of the wine down to forty cents.

THE VITICULTURAL COMMISSIONERS ARE just now considering the advisability of establishing in some convenient place in this city a sample room where wines of especial quality may be placed on exhibition and for sale. Only those of the finest quality which the makers are willing to sell under their own labels will be admitted. The reason ascribed for this proposed new departure is the inability of small makers to reach the public direct under their private labels. Many of the vineyardists in Napa and other of the grape growing counties of the State, have, it is said from time to time, old wines on haud in small quantities which would have to be sacrified if put np at public sale. A few casks of ten-year old port which, might in the one instance fairly command \$4 a gallon would not bring one-half the amount if disposed of in the open market. In connection with the sample room it is also proposed to have a sideboard, at which rare old wines will be offered to counciseurs at 25 cents per glass. An objection can be raised to the rate from the weary pocket of the press representative, but as there is a disposition to compromise this vitally important matter on a free drink basis, dis cussion will be temporarily postponed.

THE TIME to purchase country homes in California is now. The flood tide of immigration is setting in strongly towards the Pacific, and every foot of land will double in value before long. The climate and preductiveness of the soil is unequaled in any other part of the globe, and as these facts get more generally known the true value of the lands within our borders will be more fully appreciated. A typical California home is advertised for sale in this issue of the MERCHANT. One of those lovely spots where moun tains, quiet vales and forest glades combine to form an earthly paradise, under skies which seldom cloud. The land itself is capable of the highest cultivation. A portion of it is now laid out in vines, the profit from which alone, furnishes an easy income. A number of never failing springs are on the property, which iosures a sufficiency of water the year round for any purpose, useful or ornamental. The dwelling accommodations are excellent, and extensive barns and outhouses are attached to the homestead. About one quarter of the money which would be asked for some worked out acreage in the East would purchase this beautiful property. No severe winters and months of unrequitted toil, to wear out life and patience of the husbandman. In their stead peace and prosperity are offered, not only here, but in hundreds of other similar localities in this sun-kissed land of the vine and olive.

Mallinceropt's St. Louis strychnine has become a hoasehold word among the farmers and viticultarists of the Pacific States. Its effect on the gopher and ground squirrel is sure and active, the total destruction of whole colonies being only the matter of a very short time. No chance for escape when the vermin come in contact with this powerful annihilator; to touch means instantaneous death. The numerons letters of approval received by the firm at its offices in St. Louis and New York from farmers in California, can be accepted as the best proof of the value and efficacy of the exterminator.

Subscribe for the MERCHANT.

Bonfort's reports from the vineyarda abroad are on the whole satisfactory. In Bordeaux and Burgundy the wood shows well everywhere, and hopes of a good growth are expressed where the vines have been well cared for. In Germsny the pruning is well over, and the wood has been found generally in a very satisfactory condition. On the Moselle the effect of the late frost has made it impossible to tell anything about the new wine yet. The vines are looking well. In Hungary the wood is not so satisfactory, and it is feared that the quality of the 1888's will be found injured by the severity of the weather.

Owing to the suspension of commercial relations between France and Italy, and the imposition of a duty on Italian wines, much distress prevails among the vine growers of South Italy, and it is thought they will be all ruined if the situation is prolonged.

A combined attempt to recuscitate the Cognac vineyards has been set on foot by some of the leading houses in the district.

#### HIGHER PRICES FOR WINES.

The predicted 60 million gallou crop is not so serious a bug-bear as two or three years ago, remarks the Livermore Herold. Wine makers and dealers, as well as growers, realize the improved situation and concede better prices all along the line, and all over the State. We are creditably informed that the wine makers in Napa Valley are now offering to contract for three years for Zinfandel, Chassalas, Riesling and Burgoudies, at \$25 a ton. In Sonoma county last week, a cellar of a well-known grower, containing 50,000 gallons of '87 wine, was sold at thirty-five cents. This wine was mostly Zinfandel, and the remainder from choice grapes. We are informed by J. H. Wheeler, Chief Executive Officer of the State Viticultural Commission, that Arpad Haraszthy, of Sonoms, offers to contract now for Petit, Pinot and Chauche Noir grapes produced Livermore Valley this season at \$25 a ton. Last year these grapes were sold to our local wineries at \$12 50 a ton. Here is an advance of 100 per cent, bid five months before the viatage. We may expect a reasonable good crop of grapes this season. and we are certainly sure of good prices for them.

#### WINE ON THE CONGO.

At the time of my first arrival in the country a difficulty was anticipated in a certain station (which I will not name), owing to a scarcity of carriers, and the chief thought it better to put every one on short allowance. Among other rations Portuguese wine was issued at the rate of half a hottle per man per day. Each man had to send his "boy" to the store with his bottle every other day, and of course there was a rush for the big bottles. The storekeeper, instructed by the chief, rsfused everything larger than a champagne bottle, and as the second officer in charge of the station superintended the issuing of the rations in person, there was no chance for any man to get more than his share. This did not please the engineers, who decided, at a conneil held to the messroom of the Stanley, that half a bottle per day was not enough, and forthwith a collection of empty bottles began to accumulate in the engineer's store, and experiments were instituted to find out whether the capacity of any one of them exceeded that of the rest, but with very unsatisfactory results.

At last some suggested the device of blowing out the bulge in the bottom of the bottle so as to leave it nearly flat. No sooner said than done. Not only was the bottom fisttened, but it was found possible by means of hest to slightly etretch the bottle itself, so that, although it appeared very little larger than an ordinary champague bottle, it would hold nearly half as much again. The trick remsined undiscovered until the engineers had all finished their term of service, when the ingenious deviser of the same, being the last to depart for Europe, left his bottle to the second in command, with a hint to keep his eyes open for the future .- Blackwood's Magazine

#### PROFITS OF OLIVE CULTURE,

Ellwood Cooper, the best known of California's olive growers, says the Aubura Republican, get \$2 a quart for his olive oil, and is making money at the rate of about \$1,000 an acre per annum. His orchard is thirteen years old, and is down on the coast where he is compelled to fight the black scale, a pest unknown to the foothills. There is no other crop known which returns such profits as this. An orange orchard does not compare with it; in fact there are many kinds of trees more profitable than the orange. If we should divide Mr. Cooper's profits into halfs and quarters, olive growing would still be a wonderfully locrative industry. To be sure one must wait seven or eight years for an olive tree to pay, while a peach tree will pay when three years old; but the latter is done for in twelve or fifteen years, and the olive goes on forever. The Sierra foothills afford the best ground in the world for the olive.

### A PAPER BUILT HOUSE.

One of the most interesting objects offered to the public inspection at the Sydney International Exhibition was a dwelling house exclusively made of paper, and furnished throughout with articles manufactured from the same meterial. Walls, roof, flooring and staircases alike consisted of cartouplere; the carpets and curtains, bedsteads, lamps, sheets and counterpanes, towels, hootjacks, haths, kitchen utensila, etc., were one and all preparatione of papermache, as were the very stoves used for heating the rooms in which large fires were kept burning daily thoronghout the duration of the Exhibition.

Several banquets were given in the paper house by its owners to the Commissionirs, members of the press, and foreigners of distinction. All the plates and vessels used at these entertainments were fabricated entirely and solely of paper. Should these paper onildings come in vogue they may be expected to superinduce some striking changes in the rates of fire insurance, at present calculated upon a basis of bricka and mortar.

Arpad Haraszthy has retired; M. M. Estee has resigned, and the Hon. J. T. Doyle reigns in their stead by the grace of the powers that be in Sacramento. The question now, is how long may it please the new incumbent to assume the cares of office.

Unless notice is given to the contrary, the paper will be continued after the time paid for has expired, and no paper will be discontinued until all the arrearages are paid.

# ORIENTAL WINE MAKING.

The following article on the subject of wine-making in Persia, appears in the latest issue of the Analysi;

No finer grapes are grown anywhere than in Persia, saying nothing of peaches, apricots, pears, and other fruits. In some sensons they are so plentiful, too, and so cheap that the people feed them to their horses and donkeya. On certain varieties of sweet grapes, horses are said to thrive very well indeed for a while. For several montha in the year they also form one of the staple articles of food for the poor, Every untumn one meets on the roads, whole caravans of donkeys and moles, and sometimes of camels, laden entirely with grapes. They are carrying the grapes from outlying vineyards to the cities for making wine. Certain vineyards, or districts, are celebrated for the excellence of their wine grapes, and the grapes from these particular vineyards are sometimes carried to cities distant several days' journey. The Cholar grapes grow in vineyards four days' march from Shirax, and are so highly valued for wine making that there is no end of rivalry and intrigue among the Shiraz pobles to obtain them. The grapes are packed in pannier laskets called lodahs. Fach lodah holds anywhere from 100 to 300 pounds of grapes, two of the lesser size being a donkey load, and the larger a camel's.

I arrived in Persia in the middle of the grape season, and shortly after reaching Teheran became an interested spectator of the process of making wine there. The house in which I spent the winter belonged to Mr. N \_\_\_\_\_, a member of the Persian Telegraph Department. It was a native built house, with a square courtyard in the centre. One of the first things that awakened my curiosity was three hage earthware jars standing in a row on one side of the compound. They were jurs that stood as high as u man's shoulder, and bellied out much in the shape of slender barrels. Each vessel held about thirly-five gallous

"What are they for-to hold rain water?" was the natural query that suggested itself to me.

"No," said N---, "they are wine jars, regular old Persian wine jars, that were in use 2,000 years ago."

"But not these same lars-2,000 years." "No not exactly; but those three jars have probably had wine fermented in them every acason for the last hundred years," He then went on to explain further about the jars.

The Persians believe that these jars improve with age, just as wine itself does, and that better wine can be made in the old jars than in the new ones. A wine jar a hundred years old is worth several times more than a new one, not because of any value attached to its antiquity in the abstract, but because it is a thoroughly sensoned vessel. Good wine, they say, cannot be made in new jars; the older the jars the better the wine. The Mohammedan injunction against the making and drinking of intoxicants has had the effect of making sad hypocrites of three-fourths of the upper class l'ersians. Even the mollahs and seynda get drunk in accret, but openly they not only do not indulge, but they profess to regard those who do so with abhorrence. When the wine making season arrives there is as much wire-pulling and diplomary employed among the Persians to make wine on the quiet, without incurring a scandal, as there is here in a political campaign. The great scheme

among the nobles of Teheran is to get in with some Epropeun who wishes to make wine for himself, and by going halves with him secure a supply for their own use This is a very advantageous arrangement for both parties, if you g t the right kind of a Persian. If he is an old resident of the place, and a counoisseur of grapes and wine, as a large proportion of the better class of Persians are, he is a valuable partner to have. He knows where the best grapes are to be obtained, all about mak. ing the wine by the old Persian process, and will come in handy in many ways. You on your part shield him from the scandal of making wine in his own house, or in his own behalf. If anybody comes in, the Persian partner is merely a visitor, an interested onlooker; when the intro ler leaves he blossoms at once into the knowing superintendent and expert.

Such a partner Mr. N- was fortunate in finding in the person of Mollah Agha Hassan-or, to be more correct, Mollah Agha Hassan did the finding. Hassan's ont word round by his farrash one day asking the privilege of an interview with N-Sahib-a private interview. The interview took place that afternoon and ended favorably. Mollah Hassan had heard that - intended to brew wine, and was desirous of becoming a secret partner to the transaction. He would share half the expense, and superintend the making of When it was done he would take half. The next day N--- and Hassan and I rode out to a big vineyard near Gulack, in the foot hills of the Eiburz mount ains, to pick out the necessary quantity of Hossan said it was best to buy them on the vines and leave them there until we were ready for them. We found the vineyard enclosed within substantial mud walls twenty feet high. A little stream of water flowed beneath an opening in the wall at one side, and out again at the other. The water was used for irrigating the vines. Instead of being trained upon posts or trellis work, the vines were trailing over long ridges of dry earth. The soil of the vineyard was pil d up in long mounds or ridges about four feet high. The vines were planted in the trenches and grew over the ridges. The latter were made perpendicular on the south side, but slanting on the north. The vines are trailed up the northern slopes so as to benefit by the oblique rays of the sun, which are supposed to be better for the grapes the direct rays. S veral vari ti a of grapes were in the vineyard, from little white grapes called kishmisn, from which are made the sultana raisins of commerce, to big black grapes almost the size of egg pluma.

## PECKLING OLIVES.

D. Edson Smith in the Parific Rural gives the following in regard to pickling olives, both green and ripe:

Rev. C. F. Loop, of Pomona, is quite an authority on growing and preparing the olive for table use. Mr. Kimball, of San Diego, told me at the late Riverside fair that the pickled olives there exhibited by Mr. Loup were the finest he ever sampled. and Mr. Kimball wished toe to get for publication Mr. Loop's method of packing, I recently called at Mr. Loop's home home no longer, as Mr. Loop has decided that \$100,600 is of more value to him than his hom , but was sorry to learn that Mr. Loop was too ill to see visitors. But his amiable wife and intelligent son were

mation in their power. Mrs. Loop said am unt of wat : and the time of boiling that the letters of inquiry they received were accurat ly determined by experifrom all parts of the world relating to olives almost supplied them with kindling wood

The olivea, I learned, for pickling, are usually picked while unripe, just before turning red. Grade the picked fruit into piles of uniform size. Put ten gillons of olives into half a barrel or tub, with one pound of American concentrated by and enough water to well cover the olives. Still them op frequently, so as to m.k thaction of the lye as even as possible After they have been in the lye twenty four hours, begin to test them to see if the lye has penetrated to the pit. This test is made by cotting into them with a knife and watching the change of color in the flesh of the olive, caused by the action of the Iye. When this change of color has reached the pit, wash them vivy thoroughly in several waters to climatate all tracof the lye, but to do this they will have to stand in water three or four weeks, chanuing the water duly and keeping them in a cool place all the time. When all lye and bitter taste is out put the olives into brine, varying the strength of the brine according to the length of time you wish to keep the olives. The longer the time the stronger the brine. I could obtain noth ing definite on this point, excepting that much judgment and practice is necessary to become specessful.

Ripe olives are considered by Mr. Loop to be the cheapest and most nutritions articles of food known to man. To pickle ripe olives you must take a kuife and cut three incisions in the olives clear to the Then soak them in water until all the bitter is extracted, and then put them in brine to suit the taste, or the length of time they are to be kept. Ripe olives are much preferable to cat thin green on s. They are free stone, rich and exempt from bitterness, and in every way much better for immediate consumption; but they are so tender when ripe that they easily fail to pieces, and will not bear transportation, and making the incision with the knife takes much more time to prepare them for consumption than by the lye process. But in either method it is quite nec ssary to keep them in a cool place, and in case of the ripe ones this precausion is absolutely necessary.

#### BRANDY FROM SAWDIST

A contemporary says-goodness knows how truly that brandy can be, and indeed, has been, made from sawdust. It seems that the discovery was made by a German chemist rejoicing in the name of Zetterland. This ingenious Tenton, after boiling 9 ewt. of sawdist with 7 ewt, of hydrochloric acid in 10, 7 cwt. of water, under a pressure of less than two penads to the inch, found 3.33 of the mass to be grape angar. With two and a half hours of further boiling he found the grape sugar to be 6.15 per c nt, of the mass After neutralizing the acid with lime until the cooled mash contained but a half per cent., according to Ludersdorff's test, at 56 degrees, a ferment made of 2) pounds of bruised malt was added to be hours fermentation was complete, and distillation afforded 61 quarts of brandy of 50 per cent., 55 degrees, p rf ctly free from odor or taste of turpentine and of very agreeable flavor. H rr Z tterlund considers it probable that the process might be succe ready and willing to give me all the infor- fully carried out on a large scale if the

ments. By conversation of all the calln. lose into sugar, each ewt, of air-dried sawdust would yield at least 27.4 quarts of 50

Absinth, the favorite intoxicant of the French, is almost always manufactored with a cohols of industry, ill-rectified, rendered green by the addition of the sulphate of copper, and saturated with resin. so as to give it the b antiful greenish-white precipitate produced by ponring water on it, and which drinkers so much admire. "Vermonth," another favorite liquor, is adult rated with hydro-chloride of anl-I huric acid, in order to give it a pangent tiste, "Kirsh" is extracted from the leaves of the ch rry lanrel, and contains as much as twenty two centigrams prussic acid per stre, instead of five or six centi-Rum is manufactured always with alcohol distilled from beetroot, to which is add dether and formic acid. The "bouquets" of brau lies are manufactured by the action of sulphuric acid on castor oil. The coloring matters employed are extracted from logwood, the elder, sorrel, fuchsine and coal. Such is the trash which is daily consumed by the Parisir a.

### The Worlds Winery.

At the meeting of the American National Horticultural Society, held recently in San Jose, an interesting paper in r gard to grape-growing and wine production was r ad by Prof. Hussman of Napa. He asserted that the wine product of France dwindled from a surplus of 2,000,000 gallons to hardly enough for home consumption; that grapes can be profitably raised in California for from \$15 to \$20 per ton; that there is need of wine storage so that wines can become aged before being disposed of; that California can make wine to suit the laboring man or the connoisseur: that wine at twenty five cents per gallon is better and healthier than tea or coffee, and much cheaper. If properly protected California will, he believes, become the winery of the world. In the discussion which followed, Combe of Californià, said that he can raise grapes profitably for \$10 per t n.

At a meeting of the creditors of Wm. T. Coleman & Co., held on Thursday, u statement rendered showed assets estimated at \$3,595,069,27, the liabilities amounting to \$2,919,993.14. This leaves a surplus balance in favor of the firm of \$676,.

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# OUR NATIVE WINE SHIPMENTS BY SEA.

#### PER P. M. S. S. CO'S STEAMER SAN BLAS, MAY 15, 1888.

#### TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	OALLONS	VALUE
ifred Py	Lenorman I Bros	5 barrels Wine	3,779	\$1.13
S		15 barrels Wine	758	273
& Co	14	Itt barrels Wine	509	178
W	. 1	5 barrels and 1 keg Wine	264	1799
Bros		25 barrels Wine.	1,269	775
R		18 puncheons Wine	2 732 1	
4.0		S barrels Wine	401	1.450
W	" Co	2 half-barrels Wine	53.	3,40
& S		30 barrels Wine	1.526	820
S		4 barrels Wine	191	160
ls & Co		50 barrels Wine	2,485	1,12
D & Co		25 barrels Wine	1.212	62
V Co		25 barrels Wine		600
			1,209	3.
P.F	Napa valley wine Co.	1 barrel Wine		
& F	. Konier & Fronting	6 puncheons Wine	940	43
D.O.	a h	50 barrels Wine	2,535	1,11
B C		15 barrels Wine	741	35
D M		I barrel Wine	50	3
M		25 barrels Wine	1,227	49
in diamond		25 barrels Wine	1,223	73
in diamond	. J Gundlach & Co	S puncheons Wine)		
4.0	**	2 34-casks Wine		
46		4 Barrels Wine	1,690	80
64		2 tarrels Brandy	91	20
A		25 barre's Wine	1,294	36
V B in diamond		40 parrels Wine	2.046	71
V in diamond	. 44	20 barrels Wine	1.029	34
in diamond	.1	15 barrels Wine	1,029 776	25
in diamond		25 barrels Wine	1,291	36
F		10 barrels Wine	514	17
B		35 barrels Wine	1.806	58
D		15 barrels Wine	778	22
8		25 barrels Wine	1,290.	36
WS	Williams Dimond & Co.	1 harrel Wine	47	5
PWS	. Williams, Dimond & Co	99 barrels Wine	4.950	2.71
I 11 13	•1	100 Dallels "ILC	4,550	2,11
Total amount of Wine			10.005	217 50
Total amount of wine			40.G65	\$17,53

### TO CENTRAL AMERICA

EF& Co, Corinto	B Drevfus & Co	6 barrels Wine	3071	\$250
A L. Corinto	8.6	10 cases Wine		50
G B, La Libertad	86	6 cases Wine		30
11	*11	9 barrels Wine)		- 1
+1	64	3 kegs Wine	38G	385
F M, Puntas Arenas	16	13 kegs Wine	130	135
11	41	I keg Brandy	10	40
J & J. Puntas Arenas	64	15 kegs Wine	180	170
46	4+	3 kegs Brandy	30	110
**	+6	4 cases Wine		20
V A, Champerico	Sperry & Co	2 barrels Wine	10u	99
F A, Corinto	J Gundlach & Co	1 keg Wine	14	7
11	44	I keg Brandy	15	30
(t	1.	3 cases Brandy		21
+6	86	1 case Whiskey	1	9
14	44	I half barrel Wine	28	15
16	4.6	S cases Wine		32
**	68	1 case Wine.		5
J L. Guatemala	6.6	2 half barrels Wine	55	29
16	46	9 cases Wine.	00	36
FP& Co, La Libertad	Cabrera Roma & Co	3 barrels Wine.	60	50
C P, Champerico	1.	10 kegs Wine	100	107
E C. Corinto	Fng de Sabla & Co	10 cases Whisker		76
11	Eng of Dathis & Co	4 kegs Wine	40	123
P N, Amapala	John T Wright	10 kegs Wine	100	87
11	46	I case Brandy	100	9
L L, La Union	44	8 barrels Wine	400	280
J J R, Guatemala	64	8 cases Wine	100	25
P N. Amapala	- 11	2 Kegs Whiskey	20	60 1
A =1, 221112Protection		· a mega · · umanej · · · · · · · · · · · · · · ·		
Total amount of Wine	16 cases and		1.900	\$1,935
Total amount of Whiske	v 11 cases and		55	210
			20	145
a designation of Draining			201	140

## TO MEXICO.

P D & Co, Acapulco. Urruela & Urioste  2 casks Wine	120,	\$ 50
A H Co, Acapulco		74
J M. Acapulco		32
E R. San Benito Cabrera, Roma & Co. 4 barrels Wine	80	74 32 70 58 97 57
TP. Manzanille	88	58
R.T. San Blas W Loaiza 4 casks Wine.	236	97
J M R. San Blas. J Gunalach & Co. S kegs Wine.	126	57
_		
Total amount of Wine, 30 cases and	650	\$438

#### TO GERMANY.

W S	A Nettu 2 barrels Wine	103	\$77
M Z		50	25
Total amount of Wine, 3	30 cases and	153	\$102

### MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL	RIO.	OALLONS.	VALUE.
apan	Belgic	Steamer	294	\$13
	Ganlyise			67
anaimo	Empire	Steamer	77	4
	San Juan			6
ictoria	Umatilla	.lSteamer	256	23
Total			2,953	\$55
Total shipments by Pa Total Miscellaneous sh	nama steamersipments			\$20,008 555
			21	820.5600

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LIQUID ALBUMENS,

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Zinfandel, Claret, Burgundy and Port.



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Riesling, Gutedel, Sauternes, Sherry and Madeira, also for distilled liquors; Whiskey, Gin, etc., etc.,



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Pacific Union Pkg Co.,
Cutting Pkg Co's "Cocktail" (Flats),
A. Lusk & Co's pack,
"Mermaid" brand,

Walter Co's

"Carquinez"
Point Adams,
Wadham's Fr

Scandinavian Pkg Co.; West Coast Pkg Co., Warren & Co., "Carquinez" brand; Wadham's Fraser River.

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ur lines of Canned Fruits and Canned Salmon are incomparable, and we will make prices F.O.B. or C.I.F. for Great Britain, Australia and the Colonies.

# CULTERE.

Much has been said concerning the peeuniary advantages of olive enture, observes the Santa Rosa Democrat, but owing to its comparative recent introduction into this country, few facts and figures have been adduced in corroboration thereof. As compared with the immense growth of the tree and the enormous age which it attains in its native clime, the few trees in this country may be said to be in their infancy, although many orchards are spoken of as being in full bearing. Consequently any figures showing the revenne to be derived from an acre of land caltivated to the olive must of necessity be incomplete. Such figures as are given below may be relied upon as being correct, and in their incompleteness form a basis, indefinite to be sure, upon which it will be interesting to calculate the enormous yield to be derived from an olive orchard, the trees of which are the size of a full grown apple or cherry tree, and from thirty to fifty years old.

Among the few olive orchards in this State which are said to be in bearing is that of E. S. McClellan, situated just west of the laguna, on the Sebastopol ridge, His orchard is small, containing but sixty trees, ranging from ten to eleven years old, but its age entitles it to rank among the so-called full-bearing orchards of the State. In good years these trees yield at the rate of fifteen gallous of berries to the tree. Owing to the hot, scorching wind of last June, the crop was small, averaging but little over three gallous to the tree. The olives when picked are worth a \$1.25 a gallon in the home market, at which price Mr. McClellan found ready sale for his crop this year. At this price his sixty acres yielded \$225, and if the season had been more propitious for their growth would have yielded 900 gallons instead of 180, which would be equal at the price mentioned above to \$1,125. But even the last collection of numerals cannot be taken us an adequate estimate of the revenue to be derived from an acre of ground containing twelve-year-old trees, as the trees in Mr. McClellan's orchard are planted much further apart than is necessary. When properly set out there should be 108 trees

Figuring on the hasis of 108 trees to the acre, the income per acre would be, averaging the yield per tree to fifteen gallons, which is a fair estimate and not the minimum, \$2,025. After deducting the cost of cultivating, which is much less than that of many varieties of fruit, and cost of pickling, bottling and preparing for market, the yield per acre would still be nearly \$2,000. A glimpse into the future of a thrifty olive orehard would cause the eyes of a gold worshiper to sparkle. The owner of a flourishing olive orchard should consider himself the financial compeer of a bank president or stockholder in a bloated monopoly. As stated the cultivation of the tree is attended with as little difficulty as the cultivating of the hardier varieties of some of our domestic fruits. Being an evergreen it is a constant grower, and unlike the decidious fruits does have its dominant periods, and in consequence the vital properties of the soil have to be renewed by fertilizing. Mr. McClellan uses coarse manure once in every two years. digging a trench four feet in diameter about the base of the tree. Too rich manure is likely to prove injurious to the growth of the tree. The soil should be cisco MERCHANT.

PECUNIARY ADVANTAGES OF GLIVE kept lose, plowed and cultivated once or twice during the season. There are various methods of pruning, but that most in practice, and of which Mr. McClellan is an advocate, is to trim the tree in an umbrella shape as much as possible. This tends to admit the free passag of air among the branches, and of the sunlight to its center, to the exclusion of dampuess and deleterious moisture. Mr. McClellan is an advocate of the Mission olive. He thinks it is superior in every way to the Pichaline. It is larger and has a smaller stone. The nurserymen he thinks advocate the cultivation of the Pichaline in preference to the Mission because it is much easier to propa-

Little experience has been had with the larger varieties, such as the Spanish Queen olive, etc. Although inferior in point of size, the Mission is as pleasant to the taste as any olive grown, and its substance is proportionately greater than that of the larger olives, and is a free stone. The Queen olive is a cling stone. The fruit buds bloom in May, and the fruit is ripe for pickling in December and January. It intended for pickling they are gathered just before their yellowish-green color deepens into the purple of their full maturity. When used for oil they are allowed to become perfectly ripe. The process of pickling is simple and attended with slight labor and no-difficulty. When pickled under the Kimball process they are first put into a solution of two ounces of concentrated lye to one gallon of water, and allowed to remain therein for thirty-six hours, or nutil the bitter taste is taken out of them. They are next put into pure water and allowed to remain until all traces of the lye have disappeared. They are then put into a weak brine, followed by a stronger one, in which they are subsequently bottled. The olives are generally bottled in pint bottles or jars, which cost already labelled but eight cents. The olives bottled sell for \$3 a dozen, \$6 a case. Without consulting any other limit than that prescribed by the term possibility, it would not be fictitious to test the elasticity of the imagination by penetrating the mist which prevents one reading in the book of futurity and turning to a page fifty years hence, when the young olive orchards at California will be in their prime. At such a time the industry will have grown to take its place among the most extensive of the age. The yield per nere of olive orchards will be enumerated by thousands of dollars instead of hundreds, and their strong branches will remain to puncture the surface of the next flood, and extend to the omened dove the proverbial olive branch.

#### SALE. FOR

Two hundred acres in Sonoma County, ten minutes drive from railroad station. Forty acres planted in the finest variety of vines. The balance rich river bottom, and rolling land capable of the highest cultivation. Several never failing aprings and plenty of oak and redwood timber on the property. Good house, large barn, and out buildings. Scenery, climate and roads unexcelled. Good fishing and hunting in the neighborhood all the year round. One of the most elegant and profitable suburban homes in Northern California.

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## OLIVES. Within certain latitudes the olives will

grow anywhere and serve for almost any

purpose. On a dry and stony elevation

that would starve out a thistle, the plant

luxuriates; and if the sea breezes may but fan the young shoots, so much more of promise is there for the olive harvest. Propagated chiefly by cuttings, the willowy looking twigs take roct with a proud definnce of ordinary rules; and there is a whimsically planted grove of olive trees of unusual size and beauty near the town of Messa, in Morocco, which illustrates this trait in a remarkable way. One of the kings of the dynasty of Saddia, being on a military expedition, encamped here with his army. The pegs with which the calvary picketed their horses were cut from olives in the neighborhood; and some sudden cause of alarm leading to the abandon. ment of the position, the pegs were left in the ground, and, making the best of the situation, developed into the handsomest group of olives in the district. Olives are mentioned in the earliest records of Egypt, and their introduction into Greece took place at least as early as 1,500 years before our ers. Thence their cultivation usturally passed into Italy, the Romans especially prizing them; while Virgil mentions three distinct varieties, each of which has its own fastidious supporters in the ancient conflict of tastes. Priny also tells us that they also grew in the heart of Spain and France though he awards the palm to the smaller olive of Syria, the clive of which was at least more delicate than that produced in the western countries. So far as regards the oil of Spain, and to some extent that of Italy, this judgment stands good to the present hour; for the reasons that the Spanish olive is a large and coarser fruit, while the Italian growers are too apt to detract from the limpid delicacy of the virgin oil by the sacrifice of quality to quantity. For the olive, like all generous givers, demands that you should "squeese" him gently. The oil is expressed from the entire pulp and body of the fruit, and its body stands in inverse proportions to the quantity produced. The first pressure yields a thin, pure liquid, almost colorless; and with this even the most fustidious of English palates rarely make acquaintance As the pressure is increased a less delicate product is the result; while if it is still further prolonged a rank and unwholesome residum is obtained, wholly unfit for edible jurposes. It should be mentioned that virgil oil does not maintain its freshness for more than a few weeks without the addition of a little salt or sugar, and it is almost impossible for any one to realize the exquisite delicacy of this first expression of the freshly gathered olive, unless he has sojourned in such a district as that which, say, Avignon is the center. The oil of Aramont, in Provence, was formerly supposed to have no equal in Europe. Both the olive and the manufactured oil of the southcast of France are, indeed, still unrivalled by those of any other country. The Italians pay more respect to the commercial aspect of their production, and among them the the number of olive farmers and merchants is very large. They have a proverb, "If you wish to leave a competency to your grandchildreu, plant an olive." Doubtless the advice is sound enough, for the trees often flourish for more than a century, and hear heavy crops to the last. But to peasant of South France the olive is almost what the pig is to the English Inborer.

Prudent housewives there are no adverse to imported at a much higher cost.

the introduction of a new fruit at table as their thirteen English sisters are to the "new" losf. In fact, they hapitually preserve the darker berries for everyday use: for these not being so agreeable to the taste, "go" further-a necessary consideration when they oftener form the staple than the accompaniment of the meal.

Olives intended for enting are gathered while still green, asually in the month of September. They are soaked for some hours in the strongest possible "lye" to get rid of their bitterness, and are afterwards allowed to stand for a fortnight in frequently changed fresh water, in order to be perfectly purified of the lye. It only then remains to preserve them in common salt and water, when they are ready for for export. Among the Romans the olive held the privileged position of being equally respected as a dainty accessory and an ordin ary fond. It was eaten at the table of the temperate and luxurious alike; and, whil dividing the highly flavored dishes of their extravagant suppers, formed a constituen of Horace's pastoral meal-"Of olive, en dive, simple tastes, and mellow." - Ex change.

## CONSEMPTION OF RAISINS.

The United States is the largest con suming country of raisins in the world and reliable anthorities estimate the cor sumption at about 2,000,000 boxes of abou twenty-two pounds each, which at an aver age of \$2 per box, shows an expenditur of \$4,000,000 per annum for one article i the dried fruit line. The amount referre to represents, eny, 1,000,000 boxes Vs encia, 750,000 boxes Culifornia, 200,00 boxes Malaga and 100,000 boxes Smyrns The crop of the world for the pesent set son is estimated in round numbers a 6,500,000 boxes, about as follows: Va encia 3,000,000 boxes, Malaga 6,000,00 boxes, California 75,000,000 boxes an Smyrna 200,000,000. The shipment valencia raisius to the United States date are 500,000 boxes, 300,000 of which are now afloat.

The consumption of raisins in th United States during November and D cember is greater than any other for months in the year, which is due to the holiday season which prevails--Thank giving coming late in November, follower by Christmas and New Years a mon or more later on. California raisin which are now so popular with the co suming public, have made rapid progre during the last four years, from which date their prominence dates. Each ye the product has been vastly improved, as it is believed that the course will continuntil their quality equals that of the fo

eign product. It will be remembered that the packe of Malaga last year adopted the twent pound box as the standard, being force into it by the packers of California. has just been announced that they ha adopted the old standard of weight twenty-two pounds to the box, on accou of the fact that the greater proportion the pack there is consumed in Great Br sin and upon the continent, and deale in those countries are strongly opposed the new system. The importers are no dwelling at some length upon the fact th they are oflering larger boxes at very lit difference in price, while California ages claim superior quality, and put their thre crown loose goods against the two-cro

#### HOW TO PLANT TREES.

It is always better, says the Garden de Forest, to plant small trees than large They are more easily and cheaply 11 14. mved, recover sooner and grow more apidly. A transplanted tree two or three eet high will soon overtake and aurpass a meh larger one, and grow into a more igorous and beautiful specimen. A vast mount of money and a great deal of time wasted every year in trying to transplant arge trees. It is not essential in digging p trees to preserve a large ball of earth very heavy mass of earth often breaks ne tend r roots, and is, therefore, a danrrather than an advantage to the tree. is essential, however, to preserve as may of the small fe ding roots as possile, and care must be taken in digging a ee not to unuccessarily break or multilte them. All broken roots should be nrefully cut away with a sharp knife beore the tree is replanted.

Care must be taken not to expose the bots to the dying influence of the sun nd wind. They should be covered as oun as the tree is dug, with a piece of loth or matting, or they may be dipped wet mud until they become thoroughly pated. The a cret of successful translanting is to have the soil brought into ose and immediate contact with the roots. is better, therefore, to plant in dry and ot in wet, rainy weather. The conting of ad not only protects the roots from dryig, but helps the earth thrown about tem to adhere more closely. Two men re required to plant a tree.

The hole should be twice the width of re mass of roots, and the bottom should worked fine with a spade. One man sould then hold the tree erect, with its outs carefully spread out in all directions the hole, while the second man should reak the soil taken from the hole, so as make it as fine as possible, and then let fall from the spade down apon the roots, hile the first man should lift the tree ently up and down, that the fine earth ay penetrate and fill all civities about re roots. When the hole is nearly filled this way the carth should be pressed own with the foot, beginning at the outle of the hole and working in toward e stem of the tree. The hole may then filled and the soil rammed down solid. all trees should be carefully and securely aked as soon as planted. The operation then finished. It is not uncommon to water ponred into the hole while it is ing filled up. This practice does harm ther than good, as it washes the fine il away from close contact with the

### CIDER AND WINE

P. Pohndorff in the latest issue of Bonrt's, saya; It is not frequently considered nat a proportion of cider enters by the le of wine into consumption in countries here fermented fruit juice is the habitual companient at the family meal. Naturly, the regions debarred from the culture the grape vine, but where the apple chard is or importance, are not only the odneers, but also the chief consumers of der. The recognized value of the taric acid of the grape over the malic acid an excellent substitute for wine, and it two or three drops have been known to be largely consumed in France, in other a death dose to an infant, and in the fact 519 MARKET STREET,

northwest, filling, in fact, part of the gap be "beneficial to infant and octogenarian," between the production and consumption of wine, since the destruction of part of France's vineyards has constrained commerce to import annually a quantity of sence" to contain from 30 per cent up wines that exceeds two hundr d millions warps to 45 per cent, the greater in the of gallons.

The following figur a of the product of 1887 in France will show the case in round

Wine f om the fresh grapes, 660,000,000 gallous.

Wine from pomace, 76 5 0,000 gallons. Wine from raisins, 68,500,000 gallous. Cider, 354,000,000 gallons.

And if the amount of eider, as in some years is the case, were a full 500,000,000 gallons, there would be hardly a surplus,

Beer, although its consumption is increasing constantly, does not seem to become a family table drink in France.

The government of that republic extends its fostering care over the viticulture in the most laudable manuer. The reconstruction of her vineyards goes on triumphantly, and, judging from actual increase each year, the pariod is not far distant when the growers of France will need no wines from oth r countries. Algiers had in 1886 a crop of 41,190,652 gallons, and in 1887 of 59,255,700 gullons of wine. Such progress aft, r just fourteen years of practical viticulture in that colony-being, in fact, double the amount our beloved United States are at present capable of producing -fosters grand hopes

The minister of agriculture has organized an exhibition of ciders, and thereby excites new interest in that importation branch of production in Prance.

Stimulating eider production in this country would be equally beneficial. Rational eider consumption. however, like the use of wine for the table, needs equal stimulation, the antihygienic dectrines of Prohibition notwithstanding.

## AN ESSENCE OF DEATH

The Massachusetts Board of Health, as is learned from Dr. Samuel W. Abbott, the health officer, is keeping up the work begnn by it eleven years ago, in examining into proprietary medicines, and just now it is particularly looking into what is advertised by "Dr. Buckland" as "Scotch oats essence."

The proprietor of the Druggists' Circufar recently caused analyses to be made of the compound known as "Scotch oats essence" in order to ascertain its contents. Dr. Bennett F. Davenport, chemist for Board of Health of this State, and of the chemical societies of America, London, Paris and Berlin, the British Society of Public Analysts and the German Society of Analytical Chemists, wrote to the Draggists' Circular:

"I have analyzed a scaled bottle of Scotch oats essence, double strength, and find that each fluid ounce contains onequarter of a grain of sulphate of morphine." Since this report was given, Dr. Davenport has continued his investigations with this result: The "essence" is sold in three grades of strength. No. I contains little or no morphine at all, No. 2 considerable, and in No. 3 there are from 200 to 250 of landanum, or about two teaspoonthe apple is the reason why wine is Inla of launanum to every wine-class. This preferred by the many who can afford is enough to kill an adult not addicted to greater expense. Nevertheless, eider the use of opinm, says Dr. Abbott, and

departments than the cid r-producing that this medicine is freely advertised to says Dr. Abbott, the wick dness of the business may be seen without explanation. Of alcohol Dr. Davenport found the " s-Si bottles.

Two years ago Dr. Abbott had this to say to the State Board of Health in regard to the "curing" of the opium habit:

"The purchaser of such pr parati us thus becomes the victim of a cruel fraud. under the supposition that he is obtaining a remedy or antidote, the article which he receives being simply the enemy in disguise against which he is bending his en rgies to obtain relief. This shameful practice deserves nothing but the severest con demnation. To the credit of Massachusetts, but few, if any, of these preparations are made within its limits. The results of the opium habit are known to all physicians in active practive, scarcely any one of several years' experience having failed to recognize this evil, to a greater or 1 ss degree, in his daily round of practice "

#### SHARING THE PROFITS

This is a subject which is receiving cousiderable attention, and one ou which there seems to be diversity of opinion. A Springfield (O.) manufacturer says in the "Ag of Steel," "I am almost persuad d that the best way to secure the undivid d interest of an employee is to share with him the profits of the concern. You thus make him your partner; he is elevated in his own estimation and in reality; he feels a certain pride in the work turned out, not only of his department, but of the entire factory; he has aroused in him a feeling that he is in a certain sense responsible for anything that may go wrong about the establishment, and he will use his best mental and physical endeavors to do the particular piece of work he is doing as well as it can possibly be done. I helieve, also, that the system of profit sharing is a solution of the labor question. The system brings employer and employee together. They are friends, co-laborers, in a common cause. What is for the best interest for one, is for the h st interest of the other and should any diff rence arise between them, they will not go into a corner and sulk and nurse their grievances until a mole hill becomes a mountain but will come together like pariners, as th y are, and will adjust their differences without trouble. I am not saying that either employers or employees in this country are yet ready for this new order of things. But they will grow into it, for I b lieve the time will come when the system will be very generally adopted in this country

#### IRRIGATION IN INDIA

In the province of Scinde alone there are pearly seven thousand miles of causis in operation, irregiting two million acres of soil. No country in the world is so well depted by soil, climate and physical g ography to r ap the b st r sults from irrgating eanals on a large scale as India. Vest 1 vel plains of rich alluvial soil, slopiggatly over the painsula from the Humalayas and smaller monotain chains, have for long ag s b in awaiting repemption at the hands of min. Some were barning wastes that hipp d up the scanty annual rainfall as greedily as if it lad full n on but iron, and with no visible results. O hers, in the track of the monsoons iff rd d pasture and critivation in ordinary s asons, but with a senson of drought came famine that swept away millions of

The canals have put quite a new face on the matter. The magic transformation brought about by the distribution of water in Scinde, where the annual rainfall is but nine inches, a mere bagatelle to what the san-blistered earth r quires, is something marvelous. Along v ry ramification of the anal system one can see a fringe of green fields, immediat ly beyond which is the baked and serile plain on which there is not even a blade of grass. Just as far as the water from the ditch extends there the soil revels in a wealth of intense green, yielding crop after crop almost as fast as they can be sown and reaped. But the line between that which is irrigated and that which is not is as sharply defined as though it were an affair of paint and canvas - Ex

#### WANTS A WINERY

Every indication now points to a good crop of grapes says the Livermore Herald, in this valley, and though there is an excellent demand for California wines, and it is very proba ble that a large quantity of our wine grapes will be marketed in San Francisco, it is nevertheless a fact that we greatly need another public winery in this valley. would still leave our present wine makers all the grapes they could handle, and do no one an injury. The business for another winery is here. If it does not come, how, ver, we shall not be "caught," as San Francisco will undoubtedly off rus a market for our surplus; but it would be better to make up our own grapes, and thus identify the vintage with this valley.

varieties of fishes examined by naturalists of the Challerger expedition have been found to be totally blind in the doop son, but can see who inhabiting shul-

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#### ADULTERATED DICINKS.

French wine merchants who complain of the manufacturers of Hamburg champague and other German imitations of the juice of the grape sold nuder the name of noted Freuch vintages, have evidently little to learn in the art of adulteration. Two of these gentlemen, named Linden and Mar got, have just been tried for selling spurions wines, through commercial brokers, in public anlea at Macon, St. Julieu, St. Emilion, etc. A public analyist gave evid nce that the wines were not wines at all; they were a composition made with an in-Insion of dried raisins, colored with extract of coal tar. The defendants pleaded that they had sold the wines as they received them, and that the persons who had consigned it to them were well known. They also called as witnesses a number of wine--hop keepers, who declared that as win a 30 the defendants' wine was not worse than any other, on which the judge remarked that it was not saying much for the articles hey sold. Some purchasers of the wine said that they believed in it because it was sold by a licensed broker. One of them consoled himself with the reflection that it nattered little as "People nowadays drank such muck!" And another said that the wine had an agreeable flavor of strawb r. ies, but as it gave his children the gripes ifter they had drank it, he poured it in the intter. In spite of witnesses as to character, who apoke highly of the commercial ntegrity and honesty of the defendants linden was condemmed to eight mouths mprisonment and 1,000 francs fine and larget to one mouth and 100 francs. The lefendants were ordered jointly to bear the ost of posting twenty-five printed copies of he jodgement .- Galignam's Messenger.

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OCEANIC THURSDAY, JUNE, 21:
GAELIC WEDNESDAY, JULY 110
BELGICTUESDAY, JULY, 31.
ARABI TUESDAY, AUG., 211
OCEANIC SATURDAY, SEP., St
GAELIC. SATURDAY, SEP., 291
BELGIC THUESDAY, O.T., 18t
ARABIC WEDNESDAY, NOV., 71
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is 50 inches with and 10 feet long, is run hack and forth under the press on a railread track. Has two laskets, by which you can fill the second basket while the first one is under the press, thereby doing double the amount of work that can be done many screw or lever press in the market that use only one basket, for this reason; While my press is working continu usly the other kinds are doing nothing daring the time they are emptying and filling their hask t.

is working continu usly the other kinds are doing nothing daring the time they are emptying and filling their hask t.

If the task t.

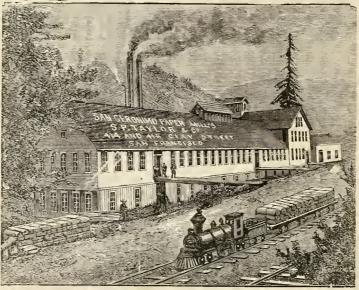
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1856.

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i	7 00 A 11 or Sacramento, and fur 1 Re ding via Davis	7.15 p
١	7 20 A For Haywards, Niles, and San Jose, For Martinez, Vollejo and	*12.45 P
		10.15 A
	8.30 A Fast Mail for Orden and East.	10.45 A
	9.00 A ForNiles, San Jose, Stockton, Galt, Jone, Sacramento, Mary sville and Red Bluff.	5.45 P
	9.30 A Fresno, and Los An-	12.15 г
۱	10 30 3 For Haywards and Niles	2.15 ₹
1	12.00 M For Haywards and Niles	* 3.45 P
ı	Cartaine des Mises L'Arabiers'	* 6.0 v
I	San Jose	9,45 A
ı	3.30 P C utral Atlantic Express, tor Ogden and East.	12 45 r
	4.t.Op   For Stockton and SMilton;   for Vallejo and Calistoga.	10.15 A
l	* 4.30 P   For Sacramento, and for   Knight's Landing via Davis	9,45 ▲
ı	4.30 F   For Niles, San Jose and	* 8.45 A
١	5.30 r For Haywards and Niles	7.45 A
I	6,30 p Sacramento, Marysville, Reddin , Portland, Puget Sound and East	7.45 A
	Sunset Route, Atlantic Express, for Santa Barbara, Los Angeles, Deming, El Praso, New Orleans, and East.	8,45 P
i	SOUTH PACIFIC COAST RAILWAY DIVISI	ON.
	1 7.45 A For Newark, San Jose and Santa Cruz.	8 05 P
	8.15 a For Newark, Centerville San Jose, Felton, Boulder Creek, and Santa Cruz	6,20 г
	* 2.15 P For San Jose, Felton, Boul-	10.50 A
	4.15 r For Centerville, San Jose, Almaden and Los Gatos.	9,20 A
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(For San Jose, Almaden and Santa Cruz, Monterey & principal Way Stations...
For San Jose, Almaders Pinos, Santa Cruz, Monterey & principal Way Stations...
For San Jose and principal Way Stations...

2.30 P

8.35 P

6.40 P

4.36 p

5.42 P

10.02 A

9.03 A

8 00 4

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6.30 :

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VOL. XX. NO 5

## SAN FRANCISCO, JUNE 8, 1888.

### PRICE 15 CENTS

Report of the	President of the
State Board	of Viticultural
Comm	issioners.

'ontinued from the S. F. Maschavruf May 25th.

A EXPERTS OF CALIFORNIA WINES BY COUN TRIES TO POBEION PORTS DURING 1575.

	Gallens.	Cases.	Value.
		Commercia	
ntral America	.430		\$279
r.l sh Columnia	495	115	719
-X:00	11.711	441	8,938
onelulu	. 358	103	15%
trope	3,191	360	2,733
mama & South A ne		51	520
DR9		1655	672

48 415	COMMIN NA		4	117	4 8 27
:X:CO		l	1.711	441	8,938
malu	du		358	103	15% [
rope			3,191	360	2,733
	a & South .			51	520
DB1			70	265-	672
				37	178
her (	Countries		5,915	1,081	7,932
		_			
<b>!</b>		2	2,461	2,395	822 652
		DUBIN	G 1576		

	tra lens.	Cases.	Value.
ral America	173		8102
	.51563	141	1,347
co	.6 312	635	6,165
ոկայալ	1.259	70	1,252
pe	. 1.503	185	4,102
ma & South Americ	2	135	552
n	69	199	75965
A	. 32	35	170
r Countries		776	7,079
	20,558	2,225	821,564

DUBING 18/1.		
Gallons	Cases.	Value.
ntral America12,250		\$11,105
tish Columbia 3 16	23	423
nico 10,997	571	9,473
	73	1.516
rope 12,061	312	9,501
pan 10	2.27	1,119
na 35	16	55
nama & South America 225	107	377
her Countries	102	3,764
tal	2,550	\$37, 466

DURING 1875.		
Gallons	Caren	Value.
stral America 5,041	2,025	813,264
Bish Columbia 1,0501	2013	1,578
tico 4,525	422	24,52452
aolulu 139	7.3	7.37
rope 2 5665	7.3	0,11-5
an	1 ~3	937
ma 941	51	417
nama & South America 911	131	(141)
her Countries . 7 512	2411	S. hilling
		,
10 PUS 20 14	3 113	90808 - 1 T

DUBING 1879.	('a× '4,	Value
ntral America 5.710	2 1127	5,9511
ltish Columbia . 111	341	3:02
tico 9,199	413	7,653
nolulu 2000	1.3	1 (-14)
rope		3 1-3
pan 3,115	ban.i	4.700
ma 25	34	211
nama & South America135	112	535
ter Countries5.295	295	1 (8330) 1
10 COMMITTEE	21113	1 (3/3/1)
-1 00.000	3 06:12	200 115.
al29,210	1,003	\$32,25×

publing 1880.	
::1	Cas s. Value.
intal introd 1 "-1	2,714 \$17,871
B 1 + C mm m	8 11 3 1 2 12 12 12 12 12 12 12 12 12 12 12 12
ef 1.1	3 6 1 915 174 66,916
Japan 2 7	75 459
Panema & South Au r v 7.55	61 452 157 1,226
Sther Countries 10, 33	271 11,565
Total	4,415 8115,631

Deniao 1501.			
Galluns.	Cases.	Value.	
Central America14,165	2,529	823,704	
British Columbia 1,530	40	1,352	
Mexico	631	12,990	
Honniulu	153	1,748	
Europe1,045	18	925	
Japan	59	833	
China 727	97	1,240	
Panama & S. America 3,981	171	2,582	
Other Countries4,126	227	4,266	
Total43,8 /8	4,225	\$49 640	

pressor 1881.

DUBING 1882.			
	Ga'luns.	Cases.	Value.
Central America		1,324	\$13,645
British Columbia		31 1,134	1,277
Hone'ulu	69.5	2847	2,165
Europe		73	2,280
China		107	1,318
Panima & S. Amer.ca.		159	2,223
Other Countries.	.9,315	451	9,000
Total	46,191	3,657	851,745
DUBINO 1883.			
	Gallons.	Cases	Value

OR IOUS.	Cases,	value.
Central America9,683	1,629	315,081
British Columbia 3,620	07	3,235
Mexico	58(1,3	20,856
Hunolulu 2 3912	4.33	3,474
Europe5,220	164	3,901
Japan	7.4	1 179
China 1,740	141	2,173
Panama & S. America 5,474	191	2,615
Other Countries 11,430	303	7,146
Total 61,918	3,905	863,263
DUBING 188	4.	
Gallons.	Cases.	Value.
Central America9,439	1.415	811,295
British Co umbia, 3,549	185	3,441
Mexico 11,467	761	15,929
Hunglulu2.742	1.567	5.510

	Total	4,871	801,614
	DUBING 1	×5.	
ı	Gall na	Сичен.	Value.
	Mexico	2,191 179 751 2,502 215 260 126 130	\$24,700 6,172 19,242 11,173 5,889 3,657 1,649 2,057
H	Other Countries 11,850	192	8,797
	Total 77,161	0,552	\$86,636

DUBING 188	nis.		
Gallons.	Cases.	Value.	
Central America, 19,009	2,000	\$24,625	
British Columbia 10,240	4()	9,291	
Mexico 21,331	401	14,565	
Ronolulu 11,096	1,520	41,565	
Europe 3,765	314	3,192	ı
Japan10,121	(24) }	4,570	ш
China titis	65773	2.212	ı
Panama & S. America . 18,345	63	13,500	ı
Other Countries 11,397	280	6,159	Н
			ı
Total 139,076	5,643	\$125,400	Ł
			ı

### DUBING 1887.

	Gallons	Cases.	Value.
Central America	31,260	2,534	834,654
British Columbia	13,313	215	9,717
Mexico	30,391	290	20,123
Honolulu	71,150	612	62,577
Europe	.,26,355	1,642	20,562
Japan		526	16,101
China		302	2,412
Panama & S. America		67	11,151
Other Countries	25 801	300	15,545
Total	25%,24%	63,444	\$193,372

## Resume of Sea Exports of California Wine by Countries to all Foreign Parts from San Francisco from 1875 to 1887 inclusive.

Gallons.	Cases.	Value.
To Central America 148,209	22,312	3285,322
" British Columbia 44,262	1,35%	10,522
" Mexico 213,129	5,233	377,749
" Honolulu135,306	7,713	145,527
" Europe	3,567	132,451
" Panama & S. Amer .033, 1908	1,000	11,299
Japan 50,295	2,541	35,912
"China 5,705	1,742	13,650
" Other Countries 125, 190	4.6355	10a,295
Total Foreign Export, 963,857	54,675	800,797

#### Total Yearly Sea Exports of California Wine to Foreign Countries from San Feanelsco Irom 1575 to 1557 lacinsive.

Tears. Gallons. Cass	es. Value.
87522.161 2,88	
87620,558 2,2.	25 21,981
NTT43,045 2,80	
878 28,309 3,1	1.3 33,517
579	n3 32,258
880 142,445 1,43	15 115,631
NS1 43 NB 4.25	25 19,610
188246,191 3.6	57 51,745
1883 164,948 3,98	
1881. 18,010 4,8	T1 #1.644
1885 77, 161 6,5	
189,076 - 5.6	43 125,409
D857 1258,248 6,4	193,372
Total 1863,557 51,66	75 \$895,797

The above tables show Mexico to have awaken d to an appreciation of our wines earlier than any other foreign country, and to have continued that appreciation in a growing manner from year to year with but slight interruptions up to date. In 1880, however, she was ootstripped by the Sandwich Islands by almost double, and in 1887 by more than double. Here we allude to wine in bulk only and not in cases or glass. Central America began recognizing the

value of our wines in 1877, and, for local rensons, entered orders for notable quantities of cased wines, and continued such orders up to date, in a uniformly, satisfactory manner. At the same time running the demands for balk wine close on to those of Mexico, and finally in the last year outstripping her neighbor by one thousand gallons. Japan beginning with 74 cases and a modest one thousand gallons in 1883. has increased each year till in the last year twenty-eight thousand gallons and five hundred and twenty-six cases.

The Japanese must be acknowledged as decidedly a progressive people.

China of all the countries makes the poorest showing, though even that Celestia Empire has shown a slow-going increase.

British Columbia began awakening in 1850, and gradually increased her imports of our wines until in 1886 her demands reached ten thousand gallons, and in 1887 reached thirteen thousand.

The European countries have done very poorly with us, but that market recalls the carrying of coal to Newcastle. Spasmodic efforts have been made from time to time to place our wines in Europe, but np to this day with indifferent success, and yet her last year's taking, without forcing of twenty-six thousand gallons and sixteen hundred cases of our wine is somewhat enconraging, and it is my belief that if our wines go on increasing in quality, without too great an increase in price, that we will have an excellent market in certain Enrop an countries within a very few years, I allud to England, Scotland, Ireland, Bel giam, Holland, and the north of Germany In 1880, the Bark Stella was laden with about ninety-five thousand gallons of our wine and consigned on a venture to G rmany. The venture brought our merchants a great d al, but was very disastrons in a finnicial point. The red wines she took were pronounced of the poorest quality they were almost exclusively made from the Mission grape, but some of the white wines found some fivor, as did the sweet white win's and the brandy, but alwere pronounced entirely too high in price for the comparative quality. In the following year 1881, only one thousand gallons were shipped to Europe, and eighteen cases. However, the Stella venture created quite a commotion and has since kept up a lively European interest in the progress of Californian viticulture, as shown by the gradual y increasing figures

showed an nureasonable advance and decline from 1875 to 1885, when they took about three thousand gallons, suddenly took eighteen thousand in 1886, and further increased their demand to twenty-six thousand eases in 1887. This must be attributed entirely to the building of the Panama Canal, and it should be exceedingly gratifying to us to see our wines thus meet those of France on neutral ground, and hold their own in quality as well as in price.

In the matter of totals from 1875 to 1:87 inclusive, Central America bears the palm, and gives us the most satisfactory results both in gallons of wine, numbers of cased wine, and in dollars and cents. Mexico follows next; Europe follows in gallous of wine, but falls considerably behind the Sandwich Islands in monetary value. In fact, the rank belongs to the Sandwich Islands, for the excess in gallons in favor of Europe was a chance won through the Stella episode, while the demand for Hawaii was a constant and legitimate demand. Then in rank follow Panama and South America. British Columbia ranks Japan slightly in value, but exceeds in gallons and numbers of cased wines. Thus showing a better quality of wine shipped to our English Colonial neighbor.

Glancing at the table showing the yearly total exports to foreign countries, we must confess a gradual favorable increase, with three exceptions, from 1875 down to present date, in gallons as well as in dollars and cents and numbers of eases. If we consider all the efforts made, the result might be considered trifling, but we must not lose sight of the fact that our greatest exports were made within the last two years, the latter one notably greater than its predecessor, thus showing a footbold gained, an advance made. In looking over the above tables. I look with the greatest interest upon the numbers of cases of wine exported to the various countries, and deem that country the most valuable to us that requires the greatest amount of eased wine. In the trade, eased wines are always considered of better quality, more mature, and consequently commanding a better price than wines shipped in bulk. Besides that, being labelled and packed by local firms with their own labels and brands, they carry with them the reputation of our State and heruld whatever quality they may possess to any country and every elime which they may reach. Thus our good wines can proclaim themselves throughout the world, and increase both good name and trade. More than this, the handling and hottling of our wines is not always suecessful with those unaccustomed to their peculiarities, and thus our wines are often spoiled through ignorant management, and our representation thereby made to suffer. Furthermore, by caseing and labelling our wines with our own labels, they cannot be conveniently palmed off as foreign wines apon the confiding consumer. And lastly, the bottling, caseing, and handling gives work to so many more of our working men in wineries, box manufacturies, uail factories, paper mills, glass works. printing, and numerous other local industries, all of which develop the resources of our State, and increase its prosperity.

While the above tables show the comparative sea exports of our wines to each country, for each year, the tables here following will show the drift and such fluctuations as have occurred from year to year in our sea exports to each country for the past Total......175,560

Panama and South America, which thirteen years. This arrangement shows at a glance the yearly progress of the trade with the different countries, and must prove of some interest to the vine grower, as well as to the merchants and transportation companies, and it is for that reason I have 1 compiled them, and endeavored to rescue them from total oblivion.

California Wine Exports by Sea to New

York and F San Franc				i
san r fanc	Inclus			T
		_		`
	O NEW		Va'ue.	1
Years. Gal'. 1875. 464, 1876. 493, 1877. 844, 1877. 844, 1877. 1,359, 1881. 1,456, 1883. 1,416, 1883. 1,214, 1884. 1,149, 1885. 1,102, 1886. 610, 1887. 1,680,	ons, 706	Cases.	\$283.766	1
1876493,	459 301	841 729	299,318 480,141 642,301	1
1878 1,200,	171	864	642,301	1
18801,373,	470 730	$\frac{220}{318}$	725,186	1
18811,450, 18821.408.	514 316	172 571	777,946 789,394	1
18831,214,	755 570	363 269	638,5 1	1
18851,102,	081 081	150	542,643	ĵ
18871,680,	365 227	180 1,335	642,301 723,186 725,373 777,946 789,394 638,5 1 626,132 542,643 289,792 696,412	I
Total14 351,	975	6,086	\$7,505 975	-
то с	ENTRAL	AMERICA.		3
Years. Gall	on«.	Cases.	Value.	1
1875	130		\$ 279 102 11,1 5 13 264	E
187712.5	250	1,449	11,1 5	1
1879 5,	40	1,449 2,028 2,297 2,514 2,829 1,324 1,629	8,501	]
$1880 \dots 1881 \dots 14,3$	80  65	2,514 2,829	8,991 17,874 23,704 13,645 18,081	1
1882 10,6	145 183	1,324 1,629	13.645 18.081	1
18849,	139		14,299	l i
Years. Gall 1875 1876	199	2,194 2,099	14,299 24,700 24,625 34,654	
188731,	°60	2,534	34,654	1
Total148,	269	22,312	\$205,322	
TO I	BRITISH	COLUMBIA		1
Years. Gall	ons.	Cases.	Value.	
1845	10a )56	118 184	\$719 1347 423 1,578	:
1877	306 080	23 203	423 1.578	
1879	111	30 23	3 ·2 902	ľ
18811.	530	40	1,352	١.
18821, 18833, 18843,	520	31 67 165	1,352 1,277 3,238 3,884	1
18843, 18855.	549 975	165 179	3,884 6,472	ľ
1885	249	80 215	6,472 9,291 9,717	١,
Total44,		1,358	\$40,522	ŀ
	TO ME			
Years. Gall		Cases.	Value.	ı
187511,	741	444	40.000	1
18766, 187710.	$\frac{312}{997}$	638 571	6,465 9,473	l
18788.	825 199	422 453	\$5,938 6,465 9,473 6,989 7,583 14,292 12,990 18,004 20,856	l
1880, 18	219	834	14,292	1
1882 15,	107	631 1,134	18,004	1
1883 24, 188411,	294 467	1,134 903 761	15 999	1
188519,	761 220	751 401	19,242 16,465 20,023	1
Years, Gall 1875, 11, 1876, 6, 1877, 10, 1877, 10, 1878, 8, 1879, 9, 1889, 18, 1881, 16, 1882, 18, 1883, 24, 1884, 11, 1885, 19, 1886, 19, 1886, 24, 1887, 30,	391	290	20,023	ľ
Total213,	129	8,285	\$177,749	
	TO HONO	LULU.		
	lons.	Cases.	Value.	1
1875 18761.	358 289	193 70	\$ 681 1,252	ı
18761, 18771, 1878	996	70 73 73	1,916 737 1,614	ı
18792,	050	4 t 306	1,614	1
1878. 1879	931 911	153	1,915 1,718 2,165 3,474 8,510	
1882 1883 2, 1884 2 1885 8, 1886 41, 1887 71,	695 892	287 433	2,165 3,474	ı
18842	762 787	1,567 2,502	8,510 14,173	
188641.	096	1,520	14,173 44,565 62,877	1
		612		
Total135	,306 	7,743	\$145,527	
Venne		Cases.	Value,	
18753,	lons. 191	360	00.550	
1875	893 960	185	4,102 9,504 2,985	1
18782	990	312 73	2,985	
18793, 188096	681	125 174	66.916	1
1881 1, 1882 2	018	18 73	9.280	
1876 4 1877. 12 1878 2 1879 3 1880 96 1881 1 1882 2 1883 5 1884 5 1884 5 1885 7 1886 3 1887 26	220 969	164 209	3,90 <b>1</b> 6.009	
18457	234	218 314	5,889 3,192	
188726,	3 5	1,642	20,562	1
m . 1 175	500	2 507	2129 491	1

3.567

rs.	Gallons.	Cases,	Value.
5,,	70	168	8672
6	69	109	796
	10	227	1,119
	20	186	937
	3,415	583	4,766
	207	75	489
1	832	59	833
	624	91	834
	1,095	74	1,479
4	1,940	192	2,359
	3 332	260	3,657
	10,124	204	4,570
	28,375	526	16,401
1	50,295	2.814	\$38,912

	10	CHINA,	1
Years.	G illons.	Cases.	Value.
18 5	18	37	\$178
1876		35	170
1877	35	16	85
1878	,80	51	4.17
1879	25	34	214
1880	61	61	452
1881		97	1,240
1882	497	107	1,318
1883	1,740	141	2,173
1881		62	1,080
1885	1,400	126	1,649
1886	668	673	2,242
1887	2,151	302	2,442
		7. 7. 10	210.000
Total	8,708	1,742	\$13,690

### TO PANAMA AND SOUTH AMERICA.

Years.	Gallons.	Cases.	Value.	11
1875	3 3	84	\$520	8
1876		138	552	ı.
1877	328	107	577	b
	940	131	982	
	138	142	655	13
	765	157	1,226	s
	3,984	171	2,582	١.
	3,117	159	2,223	ti
	5,474	191	2,615	l t
	587	348	2,659	١.
	2,768	130	2,057	74
	18,345	63	13,500	Ι,
	26,449	67	11,15	d
				1
Total	63,198	1,888	\$41,299	1
				S

				5
	TO OTHER	COUNTRIES,		S
Years	Gallons.	Cases	Value.	r
	.,5,915	1,081 776	\$7,932 7.078	С
	6,894 4,163	102	3,764	d
1878	7,812	246 295	5,898 4,630	
	5,295 10,133	271	11,565	a
	4,126 9,318	227 451	4,266 9,999	g
1883	11,430	303	7 446	7
1884	8,053 11,856	155 192	6,916 8,797	t
1856	1,397	289	6,459	I.
1887	28,804	300	15,545	Í
Total	125,190	4,688	\$100,295	В

#### THE GRAPE CROP SAFE.

Gustav Eisen writing in the Fresno Expositor says:

The usual climatic conditions of the past few weeks have caused serious alarm among many winegrowers, and quite generally the fear was expressed that the grape erop was seriously damaged by the rain. A close examination of our principal vineyards has satisfied me that, as could have been expected, not the least damage was done, and the fears were entirely unfounded. What really might have been to fear was a severe hailstorm, which happily did not come, and from the lateness of the season none is now likely to come. Indeed, I have never seen a hailstorm or snow later than the beginning of May, and happily only twice in sixteen years, both times doing no serious damage.

Many of our anxious vinyardists feared that the rains either would destroy the pollen of the vine blossoms and prevent them from setting, or cause a general mildew on the vines. Neither has so far acpeared. As to the destruction of the pollen by rain, I believe it has never taken place. The pistil of the flower is pollenated im mediately upon the bursting of the pistils, and sometimes even before. A shower of rain would therefore not injure any flowers already open, as the fertilization or pollenation has then already taken place. Nor would the rain hurt the unopened flowers, as it could not penetrate to the interior \$132,481 parts. Only uninterrupted raiss for weeks

without intermediate sunshine would couse harm and rot the interior part of a vins flower. Such, however, would never be likely happen here, at the time the vias bursts into flower. But suppose even the pollen of some flowers would have been destroyed, enough nuopened flowers would remain, which, opening later, would supply a thousand times over the quantity of pollen needed for all the nowers of the vine; so bountiful is nature that the pollen from a few flowers would suffice to pollenate a whole vine.

The mildew again, which was feared, has not made its appearance, and in properly conducted vineyards is not likely to. Vineyardists who believe in sulphuring their vines not once but several times, have already in early spring guarded against any injury that might be the effect of the continuous rains. The mildew which eauses the young vines to drop the berries, is now not likely to do any more harm, the grapes already being set, and the summer mildew is not likely to appear n any vineyard which has been properly sulphured at all. The second erop lossoms may be attacked in vineyards which have been sulphured, but such should not be a serious misfortune, as the irst crop, if well cared for, should be all he vine should be allowed to carry. It would be better the second erop could be discarded entirely, and if the labor probem was not in the way, probably our most successful vineyardists would eut it off shortly after the berries had fairly set. The ain so far has done no injury, but on the contrary been enormously beneficial. Thuuderstorms or spring showers while forming hrough the air absorb a large quantity of ammonia and earry the same to the ground and to the foliage of the plants. This ammonia is one of the most important of plant foods, and the greatest ertilizer of the ground, and is eagerly absorbed both by leaves and roots. It is this ammonia which gives the plants the bright and vigorous appearance so noticeable after a heavy or sudden shower of rain. The benefit our vineyards have received by the late rains is thus incalculable, and the same contribute mainly the extraordinary yield of grapes now promising. The first leaves were badly punctured by the vine hopper and weakened. The vine has made these stronger and is besides pressing most vigorously a second crop of branches and leaves, which are destined to shade the young grapes, when the old ones mature and fall off. out such a vigorous second growth few vineyards will produce a first-class raisin, ripened in half shade and untouched by the burning sun. The May showers have in turn been a great blessing, and the vineyardist should rejoice in them.

#### SAN FRANCISCO, June 1, 1888.

The Bradstreet Mercantile Agency reports 110 failures in the Pacific Coast States and Territories for the month of May, with assets \$2,753,105 and liabilities \$4,472,071, as compared with 65 for the previous month, with assets \$234,074 and liabilities \$475,878, and 67 for the corresponding month of 1887, with assets \$129,888 and liabilities \$191,190.

The failures for the past mouth are divided among the States and Territories as

No.	Assets.	Liab
87	\$2,626,655	\$4,19
14	87,800	20
9	33,600	6
	-0.500.00	31.47
	87 14	87 \$2,626,655 14 87,890

#### CREDITLOIS HUMANITY.

The New Orleans Medical and Surgical Journal recently published an instructive paper by Henry Dickson Bruns, M. D., on the popular medical superstitions of the day, from which we condense the following interesting abstract:

All of you know, I suppose, the belief that a potato carried in the pocket will cure hemorrhoids or rheumatism. Perhaps the "buck-eye" (asculus flava) used in the same manuer is more familiar to you, for in the Southern and Western States these therapentic properties are arcribed to this seed. I have known a most intelligent gentleman wear a string of amber bends about his neck to prevent asthmatic attacks and another a necklace of coral to avert an apoplectic seizure. The negroes of Mary land, Virginia and the District of Columbia assert that a mole's foot cut off and hung around a child's neck will keen it in teeth ing. In parts of Pennsylvania the superstitution prevails that bleeding from the pose may be arrested by the recitation of certain words from the Bible by an occulperson-i. e., the descendent of a seventh son of a seventh son. To relieve the pangs of toothache a branch is cut from s sweet appletree during a certain phuse of the moon; both ends of it are sharpened, and the "occult person" with it pricks the gum until it bleeds. Stump water-the water that gathers in an old stump-is regarded as a sovereign remedy for freekles. but to be efficient it must be taken before laylight on the first of May and the two ollowing mornings. The chauces for sealth and long life of a puny child are hought to be improved by boring a hole in tree, putting a lock of the child's hair in he hole and plugging it up. The use of 'ye-stones, the crystalline lenses of crabs idd crayfish hardened by boiling, and flaxseed for the removal of foreign bodies seem o me mainly superstitious, though oceasionally, perhaps, the offending particle dherea to the stone or seed and is removed vith it. But we must class as rankly supertitious the employment of head lice for he cure of corneal pannus, an instance of which occured in the practice of Dr. A. D. Villiams. Our fellow townsman, Lafeadio learn, who is curiously learned in all uch lore, says that "in New Orleans mong the colored people' and among many of the uneducated of other races, the vicim of muscular atrophy is believed to be he victim of voudooism;" and "that it is langerous to throw hair combings away nstend of burning them, because birds may reave them into their nests, and while the est remains the person to whom the hair belongs will have a continual headache.'

In the vicinity of Stamfordham, in forthumberland, whooping cough is cured by putting the head of a live trout into the attent's mouth and letting the trout preath into the latter. Or else a hairy aterpillar is put into a small bag and tied round the child's neck. The cough ceases a the insect dies. Another cure for whooping cough is offerings of hair. In Sunderand the crown of the head is shaved and he hair hung on a bush or tree, with the ull faith that as the birds carry away the sair, so will the cough vanish.

In Lincolnshire, a girl suffering from he argue, cuts a lock of her hair and binds l around on aspen tree, praying the latter o shake in her stead. In Rosshire, where iving cocks are still occasionally buried as sacrificial remedy for epilepsy, some of the hair of the patient is generally added sprained limb.

to the offering. At least one holy well in Ireland (that of Tubber Quan) requires an offering of hair from all Christian pilgrims who come here on the last three Sundaya in June to worship St. Quan. As a charm against toothache it is necessary to go thrice around a neighboring tree on the bare knees and then cut off a lock of hair and tie it to a branch. The tree thus fringed with human hair of all colors is a curious sight and an object of deep veneration. The remedy for a toothache at Tavisstock, in Devonshire, is to hite a tooth trom a skull in the churchyard and keep it always in the pocket,

Spiders are largely concerned in the cure of ague. In Ireland the sufferer is advised to swallow a living spider. In Somerset and the neighboring countries, he is to shut a large black spider in a box and leave it to perish. Even in New England, a lingering faith in the superstitutions of the mother country leads to manufacture of spider-web pills for the cure of ague.

In Devoushire, the approved treatment or scrofula is to dry the hind leg of a toad and wear it around the neck in a silk bag: or else to cut off that part of the living ceptile that answers to the part affected. and, having wrapped the fragment in parchment, to tie it round the sufferer's neck In the same county the "wise man's" remedy for rheumatism is to burn a toad to ashes and tie the dust in a bit of silk to be worn round the throat. Toads are made to do service in divers manners in Cornwall and in Northampton for the cure of nosebleeding and quinsy; while "toad powder," or even a live toad or spider, shut up in a box, is still in some places accounted as us ful a charm against contongion as it was in the days of Sir Kenelm Digby. The old small-pox and dropsy remedy, known as pulvis athiopicus, was nothing more or less than powdered tond.

Frogs, too, are considered remedial. Thus, frog's spawn placed in a stone jar and buried for three mouths till it torns to water, has been considered wonderfully efficacious in Donegal, when well rubbed into a rheomatic timb. In Aberdeenshire, a cure for sore eyes is to lick the eyes of a live frog. A man thus healed has henceforth the power of curing all sore eyes hy licking them! In like mouner, in Ireland, it is believed that the fongue that has licked a lizard all over will be forever endowed with the power of healing whatever sore or pain it touches.

In some of the Hebridean Isles, notably that of Lewis, the greatest faith prevails in the efficacy of perforated water-worn stones, called "sanke-stones." These are dipped into water, which is then given to eattle or as a cure for swelling or for snake-bite. If the stone is unntrainable the head of an adder dipped in the water gives an evually good result.

In Devonshire any person bitten by a viper is advised to kill the creature at once and rob the wound with its fat. It is said that this practice has survived in some portions of the United states, where the flesh of the rattlesnake is accounted the best cure for its own bite. Black, in his "Folk Medicine," states that the belief in the power of snake skin as a cure for rheumatism exists in New England. Such a belief is probably a direct heritage from Britain.

In Durham an cel's skin, worn as a garter round the naked leg, is considered a preventive of cramp, while in Northumberland it is esteemed the best bandage for a sprained limb.

tumor the microscopical anatomy of which approaches so closely the malignant type, that while its clinical behavior is so entire ly benign, may be said to be fairly encrusted with superstitions. I have heard rubbing with a pea, a piece of meat, stolen or otherwise procured, an apple, a potato, all of which are buried and allowed to rot away, highly extelled by persons in all classes of society. My Pennsylvanian authority states, that in his part of the world the favorite enres are rubbing with a potato, which is afterwards thrown to the hogs, or tying a knot over each wart in a bit of string, which is then buried at the north-east corner of the house under the eaves. They may be cured by the "occult person." who atters certain words and blows them away. "The Northumbrian cure for warts is to take a large small, rub the wart with it, and then impale the spail on a thorn hedge. As the creature wastes away, the warta will surely disappear. In the west of England, cel's blood serves the same purpose." The behavior of warts is so nnaccountable-"they come like water and like wind they go"-witness the sudden outbreak of crops of warts upon the hands of cleanly persons, the disapperance of many warts when one or two in the neighborhood have been removed by the action of caustic, that we can readily explain many of these beliefs as originating in cases of coincidence mistaken for cause. The same explanation probably applies to the cure by very small doses of magnesium sulphate taken every morning, and to the origin of many of the other superstitions I have mentioned. In still other cases an essential and very useful part of the practice has been omitted through ignorance of stubidity, and the remainder has survived to excite our wonder at human credulity and love of the mysterious. For instance, a bit of carrot or onion is sometimes pushed into the ear to relieve car or toothache Originally, doubtless, the succulent vegetable fragment was boiled and introduced while very hot, and the caloric did to a certain degree relieve the paio, for I have often known persons to apply a hot onion to an aching ear and obtain comfort. But if we can thus explain a number of thespopular delusions in this way, what are we to say to the two following:

The British and Colonial Druggist relates that a curious display of superstition was lately witnessed at Marybill, where measles and whooping cough were prevalent. travelling candy-man and rag-gatherer's eart, drawn by an ass, was standing before a row of houses a little off the highway Two women, each the mother of a child suffering with whooping-cough, took up a position one on each side of the ass One woman then took one of the children, and passed it under the asa's belly to the other woman, the child being held with its face towards the ground. The accord woman caught the child, and giving it a gentle somersnult, handed it back to the first woman over the ass, hobling its face to wards the sky. Each child was so treated three times, after which the ass was allowed to cut something from the child's lap. Subsequent inquiry showed that the mothers, whose numb r had been increased by two others during the circumony, were thoroughly satisfied that their children were the better for their enchantment.

Joking" Dr. J. 11. Jackson gives an illus. tration of what he calls "Mental Diplopia." greatly in favor of Killing a rabid dog to prevent people al. it is a sure crop."

The common wart, that curious little more the microscopical anatomy of which opproaches so closely the malignant type, tat while its clinical behavior is so entirebenign, may be said to be fairly enusted with superstitions. I have heard

And apropes of rabid dogs, one word about mad stones. Every now and then the daily papers give us accounts of marvellous cures wrought through the influence of mad-stones, and by collecting these I have come into possession of some valuable facts. Precions as they are, there seems to be quite a number of these atones in different parts of our country. Virginia, Georgia, Missouri, Kausaa and New York rejoice in the presence of one or more. The store is usually small, porous and of a dark color, though the Kansas stone is described as "nearly white." In all cases the mode of application is the same; the stone is applied directly to the bite or to an incision in the neighborhood: if the wound be envenomed the stone clings tightly, for it possesses diagnostic as well as therapeutic virtues, and the person to whom it refuses to adhere may dismiss care from his mind and go on his way rejoicing. On the other hand, if the wound be a poisoned one, after "elinging," the stone is observed to undergo a change of color, the tint varying in every instance I have seen reported from a "poisonous green" to that of a fresh oak leaf. This being accomplished, the intelligent mineral, like a sated leech, drops off. It is then soaked in warm water or milk, when the charge of poison being removed it resumes its former color; the process is repeated until the stone refuses to "cling," the cure is accounted complete. Bites of poisonons serpents, scorpions and even spiders are treated in a similar manner. The application as far as I have been able to gather, is usually painless, but in one case "as the stone adhered a scream of unutterable anguish escaped from the lips of the sufferer, as if life itself was being drawn out."

#### PAPER BOTTLES.

One of the most interesting of many uses to which paper has been put, observes the Scientific American, is the manufacture of paper bottles. They are made by rolling glued sheets of paper into long cylinders, which are then cut into suitable lengths, tops and bottoms are fitted in, the inside conted with a water proof compound, and all this done by machinery almost as quickly as They are cheaper and one can count. lighter than glass, unbreakable, and consequently popular with consumers, while the fact that they require no packing material and are clean, handy and economical, commend them to manufacturers. Unlike glass, they can be manufactured and shipped at all seasons; and being made by machinery, the supply is independent of labor troubles, which are additional advantages to manufacturers who use bottles.

Raisin Grares—C. F. Stamps, a practical grower of raisin grapes for eleven years at Orange, writes to the Los Angeles Tribune that, "in the whole range of fruit culture there is probably no more profitable occupation than the cultivation of the Muscat or raisin grapes. Other fruit crops may return a larger net profit occasionally, but for a sure and steady increase I know of none that excels the grape. One thing greatly in favor of the raisin grape is that it is a sure crop."

## RAISIN GROWING.

The lollowing paper was read by Supervisor T. C. White of the Rusina vineyard, near Fresno, before the State Viticultural Society at its recent meeting :

The subject assigned me for consideration and to which I invite your attention is the raisin grape. While I do not expect to add to the information of many who have been long engaged in the business, still there may be some to whom the results of our experience may be interesting if not

Ten years ago I was among those seeking knowledge, and found a most efficient teacher in R. B. Blowers, Esq., who kindly gave me the benefit of his experience in the then comparatively new field of raisingrape culture.

The success achieved in the past few pears has outgrown a local interest, and is now attracting a world-wide attention. The following table shows the growth of the industry;

18	16	3													٠	۰		٠				۰	0,000	
1.	7	4																					9,000	6.6
15																							11,000	4.6
1.																							19,000	6.6
18																							32,000	6.1
18																							48,000	6.6
18																							65,000	4.6
																							75,000	6.0
18																							90,000	1.1
1	8	L	•	•	۰	۰	۰	۰	۰	٠	٠	٠				٠	•	٠	٠	۰	۰	٠		6.6
18	38	2						۰				٠	٠					۰	٠	٠	٠	٠	115,000	64
18	3	3				۰								 					٠				140.000	
18	5	1												 				٠		۰			175,000	4.4
18	88	5		ì					ì					 									500,000	6.6
15	18	6	•	-					•														703,000	4.6

In 1873 the raisin erop of the State was estimated at 6,000 boxea, swelling to the comparatively enormous number of 800,-00) boxes in 1887, and may reasonably be expected to reach 1,000,000 boxes the coming year.

It has been demonstrated beyond question that the soil and elimate of portions of this State will produce a grape equal in size and quality to those of the most favored districts of Europe.

Permit me to make a few general remarks in reference to the soil, climate, culture and varieties to be grown, and the best manner to pick, dry, sort and pack raisins for market :

In geographical distribution the yield is divided between the great San Joaquin valley and Southern California. No raisins are produced in any quantity outside of these two regions. The crop of the valley amounts to 505,000 boxes; that of the Southern counties--Los Angeles, San Bernardino and San Diego-to 295,000. Fresno takes the lead with 350,000 boxes, nearly double the lead of any other district and nearly as much as that of all the rest of the State combined. Riverside comes next with 180,000.

While I have visited the raisin-producing sections of the State, north and South, my remarks are based upon the experience gained during the last few years in Fresno, in the San Joaquin valley. The following requisites are indispensible to the successful production of good raisins: Soil, climate and methods of picking and curing. First, a selection of location with reference to soil. This, in my judgment, is either the white ash or the red, sandy loam. If your "lines be cast" in the San Joaquin valley, which I believe to be the best for this industry, be certain to obtain land which can be conveniently irrigated.

My own choice would be white ash, if not too strongly impregnated with alkali. So far as I am informed, the first raisingrape cuttings were imported by the elder Haraszthy in 1862. These were the Mus- convenient to handle when filled. Trays cured, take a raisin between the thumb and its surface, which plate forms the bottom

catel Gordo Blanco; later there were other importations which were sent to different portions of the State, and assumed the names of Museat and Museat of Alexandria, causing much diversity of opinion in reference to identity and respective merit. "When doctors disagree, who shall decide?"

My vineyard is exclusively Muscatel Gordo Blanco, which I consider the best on account of its uniform large size of herry throughout the entire cluster, small siz and number of seeds, tender skin, richness of pulp and high flavor.

The vines should be trained low and praned short, and great care and judgment should be exercised in this matter, so as to leave the vine well balanced, not having more spars on one side than the other, and also leaving top spars with a view to growing wood for shade.

Another important consideration is the removal of all suckers and non-fruit producing growth to avoid the diversion of the strength and vigor of the vine from the fruit and growth of wood for the succeeding year. The vineyard should be plowed and cross plowed as soon as the vegetation starts in spring, and cultivated thereafter continuously until prevented by the growth of the vines.

Much can be done toward destroying the vinehopper by thoroughly stirring and displacing the soil immediately around the vine early in the season.

To assist in accomplishing this, plow away from the vine, then shovel directly around it, and then cross-plow, turning the farrow toward the vine.

Another important aid in destroying this pest, is salpharing, which should be commenced as soon as the vine has put forth a new growth of one or two inches. Just before blooming salphur a second time, and in localities liable to mildew, a third application may be heneficial. Coalenr, or the blasting or dropping of the bloom, is probably caused by sadden changes of temperature, strong winds and excessive musture. When caused by the latter, it can be largely overcome by the application of salphur. As vines become older, I think they are less susceptible to climatic influences. Irrigation at the blooming period should be avoided, and until the berry is well set.

If summer irrigation is necessary it should be done by means of furrows, through which the water is run.

Plowing in these furrows will prevent the cracking and drying out of the land.

In Fresno, picking commences about the 1st of September, although there have been seasons when it occurred as early as the 90th of Angust.

The grapes under no circumstances should be picked for raisius natil they are ripe. There are three ways by which to ascertain this fact-first by the color, which should be a light amber; second by the taste, and third by the saccharometer, which is by far the most accurate.

A grade may be ripe and not have the cour color when grown entirely in the

The juice of the grape should contain at least 25 per cent. succharine to produce a good raisin.

The most practical method of drying is by the use of trays placed upon the ground. The almost entire absence of dew in our locality greatly facilitates this method.

The trays are usually 24x36 inches Those of larger dimensions are found in-

frait, and should produce from 6 to 7 pounds of raisins.

The product of a vineyard depends largely upon its age and favorable conditions, varying from 2 to 9 tons per aere.

The trays or platforms are taken into the field and distributed along the sides of the roads, from which they are taken by the pickers as they are needed. As the grapes are picked from the vines, all imperfect berries, sticks and dead leaves are removed from the bunch s, which are then placed upon the trays, right side up. A cluster has what is called a right and a wrong sid-, the wrong side having more of the stems exposed than the right side. Great care should be used in picking so as to handle the bunches only by the stem. If the berries come in contact with the hands some injure the appearance of the raisin.

The trays are placed after filling between the vines, one end being elevated, so that the grapes may receive the more direct rays of the sun.

The length of time required for drying depends much upon location and conditions, favorable or otherwise. I have known raisins to be dried in seven days, but they were not a good article, and too rapid dry ing is not desirable.

The grapes are left apon the trays until about two-thirds dry, which, with us, will be in from 6 to 8 days. They are then turned. This is accomplished by placing an empty tray on top of the one filled with partially dried raisins and turning them both over. Then take off the apper or original tray and you have the raisins turned without handling or damage.

After turning, curing proceeds more rapidly, and frequently is completed in four or five days. During this time they should be carefully watched, to prevent any from becoming too dry. When it is found they are dry enough, the trays are gathered and stacked one apon the other as high as convenient for the sorting which follows. This protects them from the san and prevents overdrying. Stacking should be attended to early in the morning while the stems and berries are slightly moist and cool from the night air, as they will retain this moisture after being transferred to the sweat-boxes and assist in quickening the sweating process.

The trays which have been stacked are now ready for sorting and grading, and this requires care and judgment and, although a tedious process, greatly facilitates rapid packing.

The sweat-box is a little larger than the tray, and about eight inches deep. When filled these will contain about 125 pounds of raisius. Heavy manilla paper is used in the boxes, one being placed in the bottom and three or four more at equal distances as the filling progresses.

The object of the paper is to prevent the tangling of the stems and consequent breaking of the bunches when removed for

The sorters have three aweat-hoxes-one for first, second and third qualities, as the grade will justify. The bunches should be handled by the stem and placed carefully in the sweat-boxes to avoid breaking the stems, thereby destroying the symmetry of the clusters.

Any found to be too damp are returned to the trays and left a day or two longer in the sun. To ascertain if they are perfectly

of the former size hold about 20 pounds of | first finger and roll it gently until softened, when either jelly or water will exade from the stem end; if water, it requires further drying. When the boxes are filled they are taken to the equaliz r This should be built of brick or adobe and as near airtight as possible, but provided with windows to allow of ventilation when necessary. The windows should have shutters to keep it dark. The filled boxes are placed one exactly upon another to a couvenient hight and should remain from 10 to 20 days or more, when they will have passed through the sweating process.

As the raisius are taken off the trays some of the herries on the bunches will be dry enough and a few will not be sufficiently cared. To remove the moist ones would destroy the appearance of the cluster, and to leave it out long r would shrivel of the bloom will be removed, which will the dry ones, hence the sweat-box. The moisture is diffused through the box, some bling absorbed by the dry raisius, and the stems also taking their share, and are thus rendered tough and pliable and ensily manipulated when ready for packing, When the raisins are sufficiently equalized, the sweat-boxes are removed to the packing-room, which is provided with tables, presses, scales, etc. My method of packing is substantially the Blowers' style, face downward. The most convenient mode of packing is by the use of a metal tray corresponding in size to a layer of raisins and having a loose bottom. The raisins are placed in a preliminary packing tray with the face of the cluster downward, which gives the surface a level appearance and prevents the exposure of the stems. When the bottom of the packing-tray has been covered, which should always be with perfectly shaped berries and banches, the tray is filled to the requisite weight of five pounds. The contents of the tray are then pressed sufficiently to pack the raisins firmly together, but not with such force as to break the skin, causing the jelly to exade, and consequent early sugaring.

After being pressed they are transferred to the boxes, during which process the paper is wrapped around each layer. The paper is placed on the top of the tray of raisins and a sheet of steel the exact width of the tray is placed above the paper, and the whole reversed. The sheet of steel serves to hold the raisins in place until the layer is put into the box, when the steel is withdrawn and the layer drops into the box -face np.

The standard box of California raisins is 20 pounds weight, containing four layers of five pounds each.

They are usually graded into Dehesias, London Layers, Layers, and one, two and three Crown Loose Museatels. The Dehesia or highest grade, is packed with a view to superseding the imported article, which sells at from \$10 to \$12 per box.

Every one who has seen and admired the boxes of imported raisius, which have a top layer packed in rows with uniform regularity; few, however, appreciate the difficulty of producing this handsome appearance by hand. The task is slow and tedious. To simplify and expedite this process. I have invented and received letters patent for a packing-plate, expressly adapted to producing this effect. This device will prove of great assistance to the raisinpacker. I have used it through two seasons with perfect success.

The invention consists of a flat metal mold or plate, having depressions made in to hold the raisins in a ux d position until the packing is complet d and the raising are placed in the raisin-ber Loss Muscatels ar prepared by bang put through th st mmer and good r. The st mm r removes the berri s from the stem, and the grad r, by s parating according to size, determin s the grad

By obs rving the foregoing r-marks, you will naturally ement that the raisin busices is eminutly mid up of ditais, N u can be corel saly performed or overlook d if we expect to compete successfully with the natious who have made this subject and industry a study for e nturies,

Not only in the essentials of quality and quantity, but, in this estimate ag , a due regard to eff et it ist be observed in the way of attractive wrapp re and labels.

The industry with us is in its infancy comparatively, and while we have som cause for congratulation, still we have much to learn before we attain perfection. In ref rauce to shipping, it is to be hoped that the n ar future may bring as better facilities and cheap'r rates of freight, thereby enabling us to supply the Eastern market and the glowing for ign demand. In to by late quotations that all grades of raisins ar scorce in the h m market and insufficient to me to the demand until the next crop. May this to an incentive to us to increase and ext nd the industry through the length and breadth of our inland vallevs.

Much may be accomplished by a free int rehangs of it is and comparison of notes in reference to meth its and results. Local and State e uventions afford good opportunities for such coul r ne s.

#### VEGETABLE RESOURCES OF THE WEST INDIES

Address by Mr. D. Morris, M. A., F. L. S delivered before the London Chamber of Commerce.

### (Continued from page 52.)

There is practically viry little land in the W st Indies which is not expalle of some cultivation. It should be r membered that the vast to a industry of C ylou, now worth £800,000 annually, has been estabhish dif r the in est part on exhausted coffee lauds. The Sisal hemp indistry of Yueutan, of the annual value of nearly a milliou sterling, exists and r such conditions aridity and sterility of soil as are found in few of the West India islands.

Ther is no lack of good sold to the W st Indies. It is too commonly assumed that most of the rich soil in thes islands has already been under cultivation, and that it is nearly exhaus d. It is true that much land once under sugar has been abandoued. But it is these lands which now support a flourishing fruit and istry. The hilly lands to many of the West India islands are practically untouched. Only about one-eighth of Trinidad is occupied by cultivation. In Jamaica, in the Blue Mountain districts, there are more than 100,000 acres admirably adapted for the growth of tea, coffee and cinchona; while further west there are 200,000 aer's smited for the endivation of oranges, eacao, spices and fibre plants. The high lands of St. Vinc ut, St Lucia and Dominica are as inuocent of cultivation as tuey were four hundred years ago at the time of their discovery

If good roads were opened into the interior of the islands, and railways were extended connecting the centres of pro- tensive and reckless entting down of forests duction with the shipping ports, the lands necessary to their well-being and future available for cultivation would be sufficient | prosperity.

of the preliminary packing box, and serves to maintain a prosperity greater than anything yet seen in the West Indies. This prosperity, I feel convice d, must come soouer or later. The rash of planters east wards has gone on so long that a reaction in favor of the western colonies may be safely predicted. The "labor question" in the West Indies is a well thr shed theme I do not propose to reopen it. I would only mention that there is no doubt as to the rapid increase of the black population in these islands, and the labor question is in course of b ing solved by the most eff etnal means.

The chief care at prescut should be directed to prevent the rich and fertile lands in the West Indies being destroyed by the wasteful system of negro "provision grounds." This system is a relic of the times of slavery, when negroes were allowed to grow provision for their own subsistence on certain portions of the estate to which they belonged. Under the present conditions, such a system is most detrimental to the negroes themselves, as well as to the best interests of the islands. allow the negroes to destroy acre after acre of the best woodland, even on a payment of a nominal rent is economically most disastrons. It practically amounts to au organized system of impoverishment of the soil, which in other colonies has been suppressed by strict legislative enactments, This "provision ground" cultivation has a direct bearing upon the labor supply, and it should be dealt with by the legislature as a serious economic problem, on the solution of which the future welfare of the islands depends. If the labor of negroes, now expended in fitfally raising a few yams and cocos, was concentrated opon permaneut plantatious, the wealth of the islands would be enormously increased. At preseut the land is being systematically impov erished morely to supply the negroes with the bare means of existence. If once the negroes were taught to abandon provision ground enlitivation and depend upon permanent cultivation and upon wages, the 'labor question" In the West Indies generally would present no more difficulty than it does in Barbados. This island posses an unlimited supply of negro labor. It is needless to say that it has no "provision grounds," for every acre of laud is under cultination, and yields abundant crops,

An inquiry has recently been made into the condition of forest growth in the West Indies by Mr. E. D. M. Hoooper, of the Indian Farest Department. The islands visited were Jamaica, Tobago, Grenada, St. Vinc. nt. St. Lucia and Antigna, together with the colony of British Hondaras.

The reports of all these have already been issued, with the exception of Antigua, and the report of this latter in the press These reports have been prepared with great care, and they caunot fail to have an appreciable eff ct upon the treatment and management of the forests still left in the West Indies. These forests are necessary not only as reserves of timber to supply future wants, but as also a means of maintaining due humidity of climate, and pro tecting the sources of springs and rivers, Mr. Hooper has dealt with the nature, extout and value of West Indian timber trees, and he has brought together a large amount of useful information respecting the condition of the interior of the islands, and the measures are best adapted to prevent ex-

serve as a basis for queful legislation in the West Indies, and that all concerned will regard a rational system for the preservation of forests, and for maintaining the fertil ty of the seil as intimately connected with their very existence as centres of production in everything relating to plant life. Unfortunately, arrangements were not made for including Dominica, Trinidad, and British Gniaua in the inquiry and hence no reports have been prepared on the forests of th se colonies.

I have, so far, discussed the general conditions affecting cultivation in the West Indies, and I shall now give a brief account of the local industries

Next to sugar the most important industry is cacaco. This is the second largest industry in Triuidad, the chief industry of Grenada; while at Jamaca, St. Lucia and Dominica, it is receiving considerable attention. I should regard caeao as essentially a West Iudia industry. It is in every way suited to their circumstances as regards soil, climate and labor supply, and the consumption of cacao is steadily inerersing. Cacao has not been so successful in Ceylou as was once auticipated, and hence the West Indies should make eacao growing an industry second only to sugar. Coffee enlitivation is confined chiefly to Jamaica. The high lands in Trinidad, St. Vinceut, St. Lucia and Dominica are well suited for coffee plantations, and if the produce were well cured the results would be as generally remunerative as they are with best the blue mountain coffee of Jamaica.

We have heard a great deal of fruit cultivation in Jamai a, and the important position to which it has attained within the last ten years. This industry is now of the annual value of nearly £300,000. It is capable of still further expansion if once a Irnit trade was opened with Europe, Messrs. Sernttons have shown that it is possible to bring West Indiau fruit to this country in excellent condition, and if satisfactory arrangements were made at this end to dipose expeditionsly and remnueratively of the fruit it could be grown to almost any extent throughout the islands. I regard the growing of bananas as, after all, only a means to an end. The cultivation of this plant on the same land is distinctly limited After a certain time even the best land becomes exhausted for this crop, but is well snited for the cultivation of caeso, coffee, apices and coconnuts. Wherever banauas are grown for fruit, provision should be made for permanent plantations of some thing else to take their place. If this is not done, and the land is allowed to lapse into "ruinate," banana-growing scarcely rises superior to the "provision growing" of the negroes. This is a subject which I have urged upon the attention of planters in Jamaica, and I believe with some off et. If all banana plautations in Jamaica, now utilis d for growing fruit, were systematically established in suitable localities with cacao, the results, ten years hence, would rival the cacao industries of Trinidad and Grenuds. Where cacao cannot be grown there are oranges, coffee and spices; and if these are nusuitable, no land which can graw bananas, will fail, at least, to grow cocoanuta. It should never, under any circumstances, be allowed to lapse iuto jungle and ruinate.

The einchona cultivation in Jamaica, which is now established over some 5,000 acres in the Blue Mountains, has latterly

It is hoped that these forest reports will been disc arag d by excit u ly low inces. There is, however, or is doubt that evintually are some a proven and those whi have pirs vir liamant ming the entivity a will remain rat 1 H Armin hil stirt drigger och n whn India and Ceyl a dil, the backgrays of 1880 82 wind hav gratty test d B r Monutain indistris. To q dity of Jamura inch na is naga ste of y g 1, and this fact should ou sureg point is to wait for a bett rmark t Jea et a his lately been cur fully test la light un l to be specially s and to the Lad n a reket. It pessess a full r div r th u thinese ten, but is not so harsh as Ind in tea. Hace it is suitable for bong us l without mixing. If a t a in listry w r istablished in Jamai a to be tall bed demand, there is room for a small plant ition. The import duty of one shi ing pr pound would more than elver the extra cost of labor, while an increas to consamption might reasonably be expect if The growth of fibre plants has been started more than ouce in the W st Indies, and even now there is an attempt being made to establish plantations of Ramie, or China grass. I am clearly of opinion that fibr grosing is still in the exp rim neal stag. most promising fibr in lustry and I to the eircumstances of the West In lies is that of Sisal hemp Aya rigida . Fill particulars of this are given in the Kee Bu to for March, 1857. A h mp industry could be successfully establish d in the Liguin a plains in Jamaica and some parts of Bar ados and Antigua. Nathing is required but to import plants from Yucatan suffice ut to establish about 500 acr.s, aul lave th m on the land for five or six y ars wh a th y would be fit for cutting. Machin shave been regalarly used in Yucatan, which are known to be eff ctive in proliting a marketable fibre. There is nothing sp culative or ancertain about the industry. The profits are small, but so are the risks. A small labor supply is only n e ssary, and the soil to grow the agave plants need only be hot and poor,

Spices, such as nutmags, clay s and cardamous, have been successfully established in Grenada, where also Colon I Dune in has shown what may be den with ld sugar estates to real r them most prilu tive and remnuemtive. This i le d is d 4tined to becom the spice island of the west. The export of spices from Gr mola in 1995 amounted to 187 ext., of the velu of £5,524. Tim with not p runt m to discass many oth r minor industries. Tu cultivation of him a for him juic and eitric acid, of annatts, tobas o, ging r, essential oils, india rubb r, median lylants, sarsapanila, p ppers, tirm ne, alo s au l tauning substances are more r less tak u up in the islands, and where the circ instauces are favorabl, they derv evry eucouragement.

# A DESTRICTIVE PEST

Senator Stanford's vineyard at Viun, it is reported, recently escaped utt r distraction, The vineyard, and the entir rench in fact. was tovaded by the army worm, and des lation was spread on er ry hand. The vinyard escaped total destruction only by the prompt action of 11. W. McIntyre, the a iperintendent. He had tr uch s dug bel re the army. The trench s w r mad by plowing a farrow and sh veling out the loose earth. The worms could not cross the trenches, as th y ar not abl to climb. Many of the trench s w r fill dl v l with worms, however. The loss is considerabl.

#### ALCOHOL IN FRANCE.

The San Jose Herald in discussing the instructive report of J. L. Rathbone to the Department of State, on alcohol in France, saya: The substance of it is that the falling off in the production of wine in France, in consequence of the ravages of phylloxera and mildew, has induced an increase in the production and importation of spirits, and also that the constant shrinkage of the grape crop is causing a large production of spirits from other substances, as corn and beets.

The first of these two facts has a vital bearing on society. It has always been the Herald's position that a good light wine, used in moderation, is healthful, and that it tends to prevent drunkenuess. It is in the saloons that drunkenness occurs, and is is there that spirits are used. Good wine drunk at home is used at meals, where it aids digestion and counteracts a desire for spirits. It is the greatest enemy that the saloon has to contend with.

It is so in France, according to Mr. Rathbone. With the enormous decrease in the production of wine comes a great increase in the number of saloons. "The continuous increase in the number of drinking houses in France," he says, "is becoming from wine are the best and most wholesome a source of great unessiness. Their number, which in 1820 was 297,812, reached 399,145 in 1885." That is an increase of over 30 per cent. In IS75 there was one saloon for each 109 inhabitants, and in 1885 there was one saloen for each 94. That it astonishing and discouraging, but the truth does not end there. Of the iosane men admitted to the public asylums from 1861 to 1865, 14.8 per cent, were made insane from the use of spirituous liquors, while in 1885 the per cent, had increased to 21.9. The increase in the percentage of female lunatics was also great, starting with 9.6 in 1861-5 and rising to 14.5 in 1885. All this is better understood from the further information given by Mr. Rathbone of the increase of the consumption of spirits per capita. In 1830 it was 1.19 quarts, and from that time there has been a steady increase, so that in 1885 the average amount of spirits consumed by each man, woman and child in France was 4.07 quarts, or a fraction over a gallon! These facts are astounding, and they go to show conclusively that the bulk of the French people, deprived of their customary allowance of wine, are taking to spirits at a fearful rate, and even greater than here shown, for Mr. Rathbone produces certain reasons for his assertion that "their consumption of alcohol per capita must be eight times greater than that shown in the statement.1

In other words, there is a regular progression, as follows:

- 1. Vine peats cause a decrease in the quantity of wine produced.
- 2. The shortening of the wine crop is met by an increase in the production of apirits.
- 3. The increasing difficulty of procuring wine creates a drifting of the population toward saloons, where spirits are sold.
- 4. This in turn creates a demand for more aaloons, and their number is greatly
- 5. This leads to more intexication and increasing evils therefrom .

It is unnecessary to go further into that interesting and instructive branch of the aubject, for it is so plain, so undeniable and so reasonable that no further demonatration is necessary.

subject-one that will prove especially interesting to California wine makers.

It has been known for some time that the wine crop of France was decreasing by reason of the ravages of phylloxera, and that this fact pointed to California as the future wine maker for the world. But Mr. Rathbone's report adds materially to that bright picture, for from the facts which he presents we are forced to conclude that California will in time he the brandy maker for the world. That in lustry has been controlled by France for many years.

Mr. Ruthbone expresses the situation in France in these words: "The quantity of alcoholic spirits extracted by distillation from wine-for a long time the only distilla tion consumed in France-has been gradually diminishing, in consequence of the ravages caused by phylloxera and mildew in the vineyards of France, falling from IS -148,000 gallons in 1871 to 515,000 in 1886; and to meet the ever-growing demand for spirits this distillation has been replaced by alcohol distilled from molasses, beet-rootjuice, grape skins, and from miscellaneous farinaceous substances, especially maize and potatoes."

It is perfectly safe to assume that spirits in use. France is compelled to use inferior spirits for her own use and cannot expect the world to use such spirits in place of the fine brandies that she has been sending out. The United States can make all the grain spirits that the world will want, but there is only one place where fine grape brandy can be made, and that place is California.

This gives the California wine maker a double advantage-he can make his wine into brandy for export, or he can export his wine. In view of these facts it is well to guard the wine interests of this State with jealons watchfulness, for in that direction lies the future greatness of the State.

Already the business has grown at an amszing rate. Fourteen million gallous of wine were made last year, of the value when new of 20 cents a gallon, or a total of \$2,800,000. When bought by the consumer it brings twice as much. The exports of wine by sea last year were 1,896,. 200 gallons, for which \$893,400 was received, and by rail 4,403,300 gallons. The value of the grape product for the last three years was as follows:

Vine galls	. 50 มิถิย กักก	\$10,000,600
3 randy	1 500 000	2,100,000
taisins, bxs	1.500.000	3,000,000
rapes, table, tons	40,000	1,200,000
Total	.53,040,000	\$16,300,000
FT31 * *		

The wine is put in at 20 cents per gallon; brandy, \$1.40 per gallon; raisins, \$2 per box, and table grapes, \$30 per ton.

All this vast industry has developed in the last few years and is even yet in its infancy. Vineyards are being planted on all sides and in a few years more the product will be enormous. With France failing and going out of the market as a wine maker and brandy producer, the future of California is bright indeed.

#### RAISIN PRODUCTION.

Several varieties of grapes, observes the Supply Journal, are used in making raisins, but the different names of the varieties of dried fruit are usually given from the locality whence they are imported. The common mode of drying is to spread the bunches on platforms or suspend them on lines in heated rooms, where they are allowed to shrivel slightly. They are then

to each four gallons of which a pint of oil and a handful of salt is added. causes the sugar to exude through the skin, and makes a slight varnish on the outside of the fruit. In this way the Valencia raisin, the favorite cooking raisin, is prepared. It is shipped principally from Valencia, Spain, Malagas also take their name from the Spanish port whence they are most largely sent. These are made from a richer grape than the Val ncia, and are dried on the vine in the sun. The grapes do not fall off when ripe, so the stem is twisted and the grapes shrivel by the vaporation of their own water. In this way the fruit keeps more freshness and bloom than in any other, and there is very little exudation of sugar. These raisins are also catled Muscatelles and are the favorite table raisins. Spain is still the greatest producer of raisins, though larg quantities are also raised in Turkey and California is becoming an important locality for the production of this favorite fruit. The Sultana or seedless raisins are produced in Tarkey. These are enred in the aun, a light sprinkling of oil being earployed to prevent the too great evaporation of the moisture, and also to assist in the preservation of the frait when packed and shipped. The Eleme raisins are also produced in Turkey, and are also used chiefly for export to distant colonies and for ships stores. As their name implies, they are picked raisins, and are picked specially for ship use from the vines of the Carbourna and Vouris districts in Asia Minor. The great proportion of the raisins from Smyrna are known as "Chemese," the name of an island near the mainland. These are the Turkey grapes, pure and simple, without selection, picking of stalks, or any manipulation whatever. Th y find a ready market in Eastern countries, but ere the special feature of frait trading between Turkey end German ports. There are vast districts in Persia where raisins are cultivated, but the difficulty of getting them to market is so great that it does not pay to export, consequently they are used for distilling and local purposes. At the Cape of Good Hope raisins are produced which find a market chiefly in Australia. Distillation of raisins into wine is becoming quite an important business, the flavor of the dry fruit giving a very pleasant taste to the heverage. The raisins used for this are the small black Smyrna raisins. The dried fruit known to commerce as the Zante current is a variety of raisin. It is not made from a current. but from a very small grape diled in the sun. These small raisins were at first called Counths, because they were imported from the port of Corinth. Their similarity to currants caused the name to be corrupted later, as many supposed them to be a kind of dried current.

#### ALCOHOL IN FRANCE.

Report of U. S. Consel, J. L. Rathbone of Paris.

The quantity of alcoholic spirits extracted by distillating from wine-for a long time the only distillation consumed in Francehas been gradually diminishing, in consequence of the ravages caused by phylloxera and mildew in the vineyards of France. falling from 18,148,000 gallons in 1871 to 515,000 gallons in 1886; and to meet the ever growing demand for spirits this distillation has been replaced by alcohol distilled from molasses, beet root juice, grape skins, and from miscellaneous farinaceous We now turn to the other branch of the dipped in a lye of wood ashes and harilla, aubstances, especially maize and potatoes, ago to take charge.

The spirits produced in France are now for the greater part distilled from molasses. From 1840 to 1850 the average yearly production amounted to 1,057,000 gallons. It now reaches 18,494,000 gallons, or nearly two-fifths of the total production.

The distillation of beet root juice is also very important, producing alcohol of a good quality. The annual production in the period between 1840 and 1850 did not exceed 13,209 gallons. It now reaches 13,000,000 gallons; but nevertheless it now seems to be decreasing slightly, and it is replaced by the distillation of grain.

The production of alcohol extracted from grain, which before the year 1845, did not amount to a great deal throughout France, began to increase about that year, after a severe disease had greatly reduced the yield of the potatne crop. It was stationary till the year 1876, but it is now five times greater than then, maize especially being used for distillation. In 1873 the quantity produced was 2,298,000 gallons; in 1884, .2,813,000 gallons, and in 1885 reaching 13,899,000 gallous.

The distillation of potatoes introduced auto France some sixty years ago, has never gained a great importance. In 1873 the roduction of said spirits reach d 246,000 gallons; in 1885 it was reduced to 103,000 callons.

The quantities of alcohol produced undoubtedly exceed the figures set forth in the published statements, as, since the law passed in 1875, which released landowners and farmers from the obligation of making the declaration required from licensed distillers and exempt from the frequent inspection of revenue officers, there has been a great faccility to defraud the government by making false declarations as to the quantities actually produced.

German alcohol of bud quality is to a great extent mixed with Spanish wines entering France, but which only pays the duty imposed upon wines. This alcohol is atterwards extracted from them, and sold at cheaper prices than French and other toreign alcohols.

The import duty levied upon alcohol entering France has been raised, by a law passed on the 5th of July, 1887, from 30 trancs to 70 francs per hectoliter of pure alcohol (22 to 51 cents per gallon). This increase of the daty was considered as a kind of retaliatory and projectionist measare against Germany, where a premium of 44 cents per gallon was allowed by the Government to exporters of domestic alcohols as a reimbarsement of the internal tax, while this tax was only 15 cents per gallon.

The statement prepared by the Minister of Finances represents but imperfectly the real average of alcohol consumers. It does not embrace the quantities of alcohol produced by landowners and farmers, nor alcohol fraudently distilled or introduced into France; and, besides, a large part of the population, especially women and children, consume but a small quantity of spirits. Consequently it is to be inferred that only one-eighth of the total population of France drink spirits, and therefore their consumption of alcohol per capita must be eight times great than that shown in the statement.

MESSAS. C. CARPY & Co, proprietors of "Uncle Sam Winery and Distillery, Napa, Cal.," have opened a branch office in New York City. Mr. V. Hagemann, an employee of the firm here, went East a short time

#### THE NORTHERN VINEYARDS

The San Jose Herall contains the folowing report made by Mr. Portal to the Santa Chira Viticultur I Secrety, f the re sult of his visit through the Northern wine producing sections of Napa, Som ma, Butte and Tehama counti s. Throughout these counties, he said, the princip I topic of conversation was wine and grapes, and the peoplessemed to take a vital i terest in the business, in alless saking to vrul their d feets and advance the ben fits of the county. Their or ps this s ason w re in a very disastrons condition, and between the frost, rot and army worm w re pitichle in the disaster attendant upon their extent, whole fills being stripped clanly the de stroying insect. The worm its If was similar to a long caterpill r, with a body simi her to that of a scarpe a and with claws lar to that of a scorpt a and with claws will endeavor to explain. First of all do powerful enough to catch a yang short not laugh at forty acres. A man with a and s ver it in two butes. The green twig small capital can easily secure forty acres would then fall to the gr uu l, wher oth r worms would devour it, and in this mann r the post would strip vine ift r vine. Som b. derived from forty acres of good froit is of the foothill regimes in Napa valley were found not to b, aff ct I by this worm as deep as possible and thoroughly cross-Another fact which he found was doing plow. If you are not then ready to plant much to lessen the chine sof the northern this season, sow to grain or any profitable grape yield was the pres ne of ret, save crop. It will pay. Four good on tivation eral vin yards in the na hbarle of of Mount St. H I in being report d g atly damag d by it. Mr. 1' ital expline d this as due to the arg lac mason of the region allowed it to col. et about the re its of the vines and thus cause decay. On the Vina ranch he found 15) men at wirk fighting will hold about seventy-five cuttings, and the army worm, and there was some presented in some evergreen, you must leave pect of their securing a but r crop thereby two or three leaves on the cuttings. Give ference with us is that us vin yards are drain deither by the natural character of sand meist. You will find after you have Our ferrugene is soil, p cultur in the quantity of iron it contains, will out rely destroy year's tim the same cuttings would have this rot, should it ever affect the valley, The nature of our sors, the character and times of our rans, the fact ty four costivation, form the cases of our gold crops. The rooted cuttings need to be planted car

future success. "As to the prices this year," Mr. Porta continued, "I wid soy that we must sen sider that last y ir they halfre tim the Spring and they have its hall sine this year. They are desired a to privately asonre fancy pribes fir the grap s they will have, and in their off rest diss, resgniz- the fact that the crop will be ix alingly small. A far estimat would piece the loss in those countr's from the frist at one foorth, so that ther was ' hat she w of their having in re then a helf crep. They have in Napa v 1 y in expensive plant which must be ron, so they wal pay nay prices to seer grapes; and if the frost and the physic x raprov as leastr us compelled to sour grapes utside. We have as good tempt is y ar as we ever had and the grap s are better at than 1 fore. The question is whether we are prgrapes, produce good wine and e aim it is not from Fresno but from those counties put up our own crip, frit i perfectly frints won't be better and command a bet. I men we should be stup I not to avail o r

respondingly better to us at \$18 (\$20) and this season: "I all my numerizated this condition of if is Half ner por \$12 to \$20 than \$25 from N pa and S = peach s for one cent per pound nor thin less in the a rth re-cannes mars high noma. There is on this g that I am proud of when passing out of the Val neisstrict d-pot e mi g down h re, and that is to s green vineyards, the good sail, fre from the great r number of pists, a genial climate, cheap freights, no more explusive labor than those in other localines, and sure crops."

#### A CHECAP OLIVE ORCHARD

The majority of people with limit du . ns Is rves W. J. Langdon in the Te to Rejister, think it impossible to start a vineyard or orchard without I rg capital. As a numb r have asked me h w th y would deso with only a few hundred dellars, I of good fruit land, even if he has to go to the footbills for the same. The revenue to immense. Secure the same, plow the same will prove it to you. Send to some reliable nurs ryman for cuttings the Picholine variety preferable), which will cost about \$50 per thousand, and be about eight or which, impervious to the passage of water, ten inches long. Then get thirt en boxes twerty-two inches squar-, six inches de p. Fill the same with good san l. Each box than the surr on hig viney rls. The dif- them plenty of suc, but break the heavy winds from them. Water so as to keep the our soil or by the t tography if the vall y. planted thim in box s that this will cost you about \$20 per thousand, and in one co.t you \$15) per thousand. As the sind do s not bake and get harl or solid, y in we bexperi ne no difficulty in transplanting the last few years, and the assicance of fully. Y ar land being in good condition and having one thousand one-year-old rooted cuttings, you are prepared to plant tw nty-two acr s, and in a fair way to b . e me inder nlint. Aft r planting the sum you can grow anything between the rows that will admit of cultivation. Cultivite two or three times during the year. k op the words out and do not irrigate if your soil shows moisture to any extent whatever, as oliv s require v ry little wat r S leet h galands if pess bl., for they thriv one-fourth, and from the runy werm at bistion the same. Din'tholdback becomes ye I have not g t a \$25000 artesian well fo the wat r to run to wast, erf r the dich collina to run a cand through your prem is s, and then tax you heavy assessments on stock, and then so much an acro, and th n not get the water wh n you need it as it appears now they will under ted y be most. You will find these From I tilds and acres of mountain lands were made to nu'iz

There is a way to do it, and the man with small in ans is the one to doit. Tak pared to handicit or whither we will per-indvantage of nature. If only a sull mit the north men to come it and get our amount of rain falls, be ready for it, have your ar and in condition to rec iv and r their own. Fresno is the cony other comity, tun it; then caltivate and rid it, and keep where there will be a good yield, but it is the maisture in it. I will warr not that you will acc mplish m re than that that conthat buy our wine to hold up the reput from tool dich water and artesian wells. It of their section that we ned fear. It is would surprise many people if they would necessary that we should be per parted to cativate properly and arrigate less. Your

my larrigated, and they sell more readily " Trees for gropes, if we in this conty are The fourth y ar you will reave more revyears will be recompassed for your labor, advant good the situation. Our large Any man in health can plant twenty acres in a year, and hardly miss the tim . When y ur olive orcharl is t n years old, you can driv a tand in team and take life easy. ----

### GRAPES IN SANTA CLARA

Spinking ditorially of the grape prosjects in Santa Clara County, which are c u = d tobe especially favorable this year, the San Jos: Hera'd says

Santa Clara County seems to be especially favored this year. While the grain crop of the great San Joaquio valley has been practically rained by the drought, and the grape crop of the northern counties by worms, frost, 10t and phylloxera, or all c mbined, our grain crop will turn out a f ir average, while our graps crop promises to be one of the largest and finest ever known. The cool weather of the last month and the recent showers are bringing out the grain in first-rut condition, and the same weather, though not so necessary for the vines, has helped them amazingly The r cent rain, too, came at a time to do the most good to the vineyards, and the most of it fell in the vin yard district. In the center of the valley there was only about a third of an inch, while on the west sid , where the fine vinevards are, the fall ranged from three-quarters of an inch to an inch and a quarter-quite sufficient to thor nightly with the soil as far down as it had been dried this season, and to leave the ground at the beginning of June with very nearly as much moisture for the vines to draw upon as there was at the beginning of This, us can rendily be seen, is a tr m nd ms advantage, and in itself alone contains the promise of a superior crop And the soil in general was in splendid condition to receive and retain the additional maisture, and the result will be seen in the largest bunches and the juicest grapes that have been seen lately, even in this land of large banches and laseions berries

And the prosp et for fair priess is also very good. Even if there are no more dis asters in the northern counties, at least half of the average crop is gone. The ravages of the phyl vri in Napa and Sonoma Countries are said to be greater thin ev r this year, while to them must be add d the great daming done by the army worm cr what ver they choose to call it. There is also the disease called rot, which s ms to be ransed by the water that s til s ar ound the roots and must needs be fatal to vin a that are plauted in damp s is, or in loose soils that rest upon ac impervious hard pan. Vines planted in such soils usually flourish very well for a fow years and are very prolifiet, but it is in the nature of a vine to strike its roots down and as soon as the roots reach water, the vine must necessarily b gin to decay. Probably much of the damage said to be d 1 - by the phylloxers in the north-rn negent to whiten the ground, has been a c naturals really due to this condition of the soil, and the phyllox ra is an effect rither than a cause.

But, whatever may be the true causes of th great loss in the vineyards of our northern neighbors, and h wever much we may be inclined to deplore their mist r-

sure that we are positive of a crop cor- ter price. An Englishman in Tulare stated selves of the alva tages given to us by only properly ctt getherso as to procome fr m an clive crehard, and at six wat the specific refr meditining all the crop and fine gr pes will be sought after by the vigner one of the rerth rn court's to supply the volum their swo class, and to give dor aul div rintheir wak and insipid fluid. Butt s p of leare th roughly erganiz d, and fully ab's to pr tect their own inter sts, and th y will pay, even for our sil alil grapes, no more than th y cau h lp. Our on y chauce is to be prepared to tak care of our own grapes in lepen I at I them, and then if they went to We have bay they must pay a fair pric . now about three menths in which to make preparations, and during that time we should use our best effects to protect our interests.

# THE VINE HOPPER.

The Gilrov bazette says. The pest has become troublesome in some vineyards, especially so where there are young plants. The Viticultural Commission recommends an elaborate system of wire screen flappers to be as d in connection with petroleum which is both expensive and tedious. Mr. S. W. Kilpatrick, who is in charge of Heary Miller's extensive orchards and vineyards in this section, assur sus that a very simple, inexpensive and efficient r medy can be found in the use of conc ntrated lye. Mr. Kilpatrick recomm nds that two small cans of concentrated lye be dissolved thoronghly in one barrel (40 gallons of water, and this mixture sprayed upon the leaves and stacks of the vines, care being taken that the spraying shall be done so I ghtly as not to break off or injure the f liage by its force. The work should be done before suurise, or some time after suuset. By placing a barrel on a light hand cart it would be an easy matt r to spray many acres in a few hours and at a very inconsid rable expense.

Another forms a suggested by Mr Kilpatrick, but which he does not recomment so strongly as the for going, is to dissolve one pound of sulphur in three gull as of mick tak n from the fire at the boiling point, mix with this, two quarts of kerosene, stir the while thore ghy in one barr l (10 gallons) of water, spray with the mixthre in the sime manner as recomm all d with the cone ntrated lye.

Ther can be no pessibl harm result from the ass of either of these remedies, to either foliage er fruit, if sufficient care is tick in that the spray shall fall lightly and gent'y upon the vines.

Mr. Kili atri k is an auth city upon such subj ts and our vineyar lists will do well to heed his suggestions.

## SALT FOR GRAPIS

In a report to the West rn New York Il ruenitural Society un experienced fruitgrower of Tompkina county P. B. Crandall , says that salt apread around a grapevine in a radi s of three or four feet, sofpreventive of mildew for the past two years. The same varietica adjumng, not thus tr ated, were ruined by m dew, while those salt d were avved. The result of the exp riment should be u ted by grapegrowers whose vin a are exposed to mildew

S beeribe I t the MARCHART



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FRIDAY ......JUNE 8, 1888

THE MERCHANT has been an old-time and tried friend of the viticulturist on the Pacific coast. The records of the commission itself will show the valuable work it has done in assisting the disemination of information on everything pertaining to the benefit and development of the industry, at a time when the outlook was not so bright as at present. At all times free from any party prejudices, which creep in now and again among the membership of an important and growing organization, the course pursued has, at all times, been that which tended to promote the welfare of all connected with the business. From a few acre patches of the commonest varifies, we have seen the pleasing increase and improvement as years roll bye, until to-day the vineyards dot the State from north to south by hundreds planted with rare and choicest kinds of foreign fruit.

The Merchant is essentially a viticultural paper. The only one on the Western coast which devotes its columns exclusively to the interests of the grape-growers and wine-makers. It is at all times replete with the latest information, foreign and local, pertaining to this important industry. Every vineyardist should keep it on file for r-ady reference. While it has always enjoyed a liberal patronage at home and abroad, subscriptions are soli it-d among those who have recently swetted the ranks of vine and olive growers. Some timely suggestions in an hour of need may save many times the annual subscription.

THE WINE STATISTICS compiled by Mr. Arpad Haraszthy, and published in this issue of the Merchant, will be a valuab. reference in the future, of the propress made in the wine industry, from is early days. The work has taken considerall time to complete, involving much labor on the part of the compiler, who will doubttess be rewarded by the fining that through his thoughtful consideration much valuable information will be preserved and hand d down to future generations, which might have been lost but for his foresight and self-macrifice. His co-laborers in the Callfornia vineyards will hardly fail to appreciate this latest instance of Mr. Haraszthy's devotion to the interests of the industry, which he has at all times been so ready to further and protect.

THE Citrograph has the drop on some of the northern editors, and the reckless way it revels in the opportunity for an all round kick is amusing. For the occasion, the elimatology of Riverside, in contradistinction with every other spot available for argument on the face of the globe, the latest mathematical problem in so arranging an orangry that one skeleton plant will not deprive its neighbor of the glaring southern sun, and the sundry abuses of the wine-bibbing barbarian, outside the pale of this moral little tomperance community, are permitted to smoulder, while the editorial ire expends its fullest force on the "sapient agricultural editor of some city paper who don't know the diff-rence between a pair of pruning-shears and a threshing machine." The editor of our esteemed contemporary, the Entletin, is responsible for this blizzard of South ru iovective, in which kidney protectors, sage brush tea and codfish balls-a combination suggestive of a hungry mind, are indiscriminately mixed with seedless oranges and fatwitted city editors. He has been guilty of disseminating information on the latest improvement in the production of seedless

This item found its way originally into the columns of the Eastern papers as a joke perpetrated by an importer who was asked the question, "what is a seedless raisin?" His reply was, "it is grown by arresting one of the laws of nature." This formed the basis of the narrative, which has been gradually enlarged upon in its passage westward, a Nevada enter taking the honors as Ananias, by the following:

"The seedless raisin is produced by simply arresting one of the processes of nature. When the grape is about one half rine the end of the vine is bent down and buried in the ground. This prevents the formation of seed and the full development of the fruit, but it ripens all the same and has a delicious flavor. We remember to have heard many years ago of a similar experiment on the apple-tree. It was discovered by an Ohio farmer that the apple-tree migh be made to bear fruit containing neither seeds nor cores and without blossoming, It was done by bleeding down a young apple-tree and burying its top until it took root. The tree was then cut off at the natural root and tied up to a stake, when it put forth branches, which bore fruit of the kind mentioned. In this way it would probably be possible to produce cherries, plums and apricots without stones."

This dose is heavier than that which has already disturbed the equanimity of our Riverside savant, and a scorcher may be expected which will teach the scribe, back of the Sierras, that joking will not be tolerated on such a serious topic as arresting the laws of nature—where the raisin is concerned at any-rate. Riverside still exists.

Bonfort's CIRCULAR contains the following latest reports from foreign vineyards: The abnormally low temperature has kept vegetation in the French wine regions in an exceptionally backward state. It is true this very lateness does away with apprehensions of damaging night frosts later on, yet it causes some uneasiness, and goes to explain the obstinacy with which proprietors cling to comparatively high prices with their holdings, despite their desire to convert them into cash.

In Bordeaux the pruning of the vines tion. The Red Cros has been satisfactory, and this is one of the at the front with suc most important conditions, without which the gallant Colonel.

the hopes for a good vintage at the end of the year would be unfounded. The labor in the vineyards has been retarded so far, but at present the fine weather enables us to work them actively and to make up for the lost time as much as possible.

The pruning, tying and bending of the vines in Germany, has now been finished, but we stand in need of more propitious weather if we want their development to make any headway. Meanwhile, destructive smalls make their appearance in a few localities, despite the long severe winter. The wood has wintered well, however.

Although in portions of Southern Italy field labor has not been carried through under as favorable conditions as in former Springs, the general outlook in the Italian viticultural regions may be called a normal one at this writing, and everything promises a good yield, provided the temperature remains as high as it is at present.

A normal temperature now reigns in the Spanish Peninsula which cannot fail to prove propitious to the vines; the budding is now progressing under favorable circumstances, and we are fast approaching the time when night frosts need not be france any more, the outlook is full of promise.

In the upper Alsace the vines are about ten days ahead of those on the banks of the Rhine, as per r ports duted May 6 h and at that date appearances were all favorable.

THE FOLLY of drinking water when pure wine can be obtained at comparatively less cost, when doctors bills and funeral expenses are taken into account is exemplified in every day life. One case is no sooner disposed of than another is reported in some other quarter of the earth. The latest is that of a woman in England, who had been ill for some months, and the doctors failed to cure her. She asserted that she felt something alive in her throat which almost choked her, and finally a doctor succeeded in extracting a "four-legged reptile" three and a half inches long, from ththroat. The phenomenon was accounted for by the fact that the patient had drank impure water. No wonder Timothy was advised to take a little wine. The next probable source of further light on the evils of water drinking may be expected from Riverside, where peripatetic pillars of alkali, or the necessity for surgical relief from sixteen-toed alligators, can not be regarded as phenomenal impossibilities of the future.

DURINO THE COMING WEER C 'lond Divid Mauheim, formedly a wealthy me, in cut and banker of Eureke, N. vole, a d of late years connected with the well anown hore of Forbes Brothers in this corp, will avefor a tour through the interior of the Station business for the well known from o. Harrison & Co. (successors to Inchalls & Harrison), with whom he is now associated as traveling salesman. The wide agreed as traveling salesman. The wide agreed ance of the Colonel, combined with his extensive mercantile experience, will mable him to do full justice to his principals, and meet the requirements of his many friends throughout the State, from whom he will undoubtedly receive a hearty welcome.

Before his return, it is more than probable that Colonel Manheim will extend his trip to the Eastern States and perhaps to Europe, where the Red Cross brands of the firm in California wines and olive oil are rapidly establishing a well-merited reputation. The Red Cross banner will be always at the front with such a atandard-bearer as the gallant Colonel.

THE STATE BOARD of Virienhural Commissioners has compiled a directory of the grape growers and wine makers of California. The number of viveyard, in each county is as follows:

Alameda, 259; Amador, 25; Butte, 42; Calaveras, 58; Contra Costa, 249; Eldorado, 98; Fresno, 432; Kera, 8; Lake, 47; Los Angeles, 741; Marin, 31; Merced, 15; Mendocino, 6; Mouterey, 13; Napa, 508; Placer, 96; Plumas, 7; Sacramento, 128; San Benito, 2; San Bernardino, 318; San Di go, 210; San Francisco, 75, (there are no vineyards in San Francisco of course, but many prominent viticulturists of Santa Clara county receive their mail in that city); San Joaquin 124; San Luis Obispo, 73; San Mateo, 24; Santa Barbara, 67; Santa Clara, 474; Santa Ciuz, 145; Shasta, 77; Solano, 158; Sononia 618; Stanislaus, 10; Sutter, 40; Tehama, 28; Tulare, 10; Tuolumne, 28; Ventura, 21; Yolo, 126; Yuba, 22. Total of wine making enterprises in 39 counties, 4 957. Thirteen counties are not reported as in my manner interested in grape culture.

The Board will in the future ascertain or public information, the exact acreage in lines, varieties of grapes planted, and ther statistics of value to the viticulturist.

OLIVE CULTURE is det y growing in favor with the people of this State. The attenion now given the valuable tree in every respect is such as to clearly jud cate that no passing fancy has taken hold of the enthusiastic seekers after knowledge on the subj ct. Business is intended; and olive orchards will be immediately set out. in different sections of the State. The great objection heretofore nrged of the long period of time required to bring the trees into bearing, appear groundless in face of the fact that in the southern portion of the State, trees which are less than five years old, are now laden with fruit. In other portions of the State, a list is being made of the suitability of climate and soil, for the culture of the tree, and in soma places hot-houses are constructed for rooting slips in large quantities.

From all parts of the State, news from the viney ards is entirely satisfactory, with a prospect of a splanded crop, which there is every mason to bleve will command a good price. In some districts of northern California, wine makers are offering to engage good grapes at \$25 per ton. In other columns of this issue of the Merchant, much valuable information glained from the most reliable sources, will be found regarding the condition of the industry in the different counties.

From the southern districts the prospects are very flattering, and the vines are attracting more attention than they were last year for various reasons. The rainfall has been abundant, giving good strong caues with vigorous bloom, and already the vines are forming the branches of fruit.

The Santa Rosa and Catquin z Ruilroad is now open for traffic, thus connecting the two fertile valleys of Sanema and Napa, and opening up the filest vine growing and sections of California. Among the founteen intermediate stations established along the line are those of Glen Eiler, Wanfeld and Drummond, names in themselves intimately connected with variculture. The new road will be of great boom to the vineyardists of these valleys; they will now be able to ship directly to Sacram nto for transportation East, instead of first forwarding to this city, as has been necessary heretofore.

#### THE OLIVE.

### An Expert Opinion on the Future Value of the Fruit.

EDITOR MERCHANT:-While not desiring to put a damper on the hopes of those intelligent planters who take advantage of the privilege nature grants California, to enltivate successfully the noble olive tree, on the other hand, the true inside of the value of the fruit of that tree in the future. when our children or theirs will enter into line with other olive oil producing countries, should be discussed for greater safety. Had th Southern Europeans and the peoale of the L-vaut, who for thousands of years have used olive oil for their diet, had he oil of the seed of the cotton plant instead, it would have fully answered the same purpose. There seems to be no doubt about the nutritive and healthful properties of cotton s ed oil. Those habituated to als from the walnut, from mustard, cotton, or other seeds, will acknowledge olive oil to e of infinitely superior taste and quality, ont their every day needs will be satisfied by the use of the less costly crushings from hose seeds. Those who pay faucy prices or so-called pure olive oil of av rage retail commerce, imported according to label, may e astonished when the true oil renders heir salad or their fried fish as tasteful as neallus may have found an extra dish of be culinary artist's invention. Those acustomed in olive countries to the daily use of their product, will only with reductance ccept oil from seeds, for it is hard to have o mount an 188 when you have no more an pportunity of riding on a good horse. We ee Italian and French laborers in Califoria pay a high price for good olive oil, a nxury indeed and hardly acc ssible to the erson of slen ler means, and which in the onatry of their nativity is obtainable at a rice much less than that of butter. The opious planting of olive groves in Califorin and the intelligent choice of varieties of reat merit is justified so fully, that if a undred thousand, nay, a mil i n of acres ill be covered with them, there need be o fear of over-production, for a hundred nillion of Americans in a few decades will emand a large supply of both olives in ickle and olive oil, and were it only for the action of 5 to 10 per cent of the pepulaon, the wealthiest, there will not be a surins, particularly as by that time people il have learned that young olive oil, larged with sperm matter, yet to be prepitated by keeping, should not be used.

Favorable opinions that recommend proagation of a plant, are chewed over to atiety, and the original complement delived after being interpreted a dozen times, on appears so changed in its proper eaning that people are led astray. raise and recommendation of the olive ee and the profits to be d-rived from it cording to the numerous articles in print ad to believe that there is untold wealth every little group of trees. Moreover, it often stated that it will succeed without e least care on any slepe in any soil. This eds correction. We cannot be the carel in selecting sites for the olive tree, easy it be to make it grow in parts which can t so well be utilized for other planting. e have to bestow care on nursing the olive ee, Lowever inexigent it may be. And wa we to be extremely careful in choosing oper varieties for individual locations, for hat we plant is to live after us for eenries; we plant for a p-rmanency. There my be no difficulty in using as a capital

we can easily bud and graft high r grad. THE FRANCE PROCESS IN FRANCE vari-ties on the stock that pr spers so will in our soil. But let us early lo k to provide our nurseries with kinds that preve of grander properties. L t us stuly the mattor with the thoroughn as cur viti a turns a study their plant. L t us act apon sur r

olive oil through commerce from other countries, the true article produced y t in hilliputian quantity in California of courletches a price that is somewhat abustmal. but fully in harmony with what the ratu trade asks for the import durtice

The great cost of labor as I ug as the output will not induce to erect establishments on a large scale, working econ mically tog ther with the so ircity of the fruit as yet and for some years to come, out times justifies a high price for what is in d mand to a degree that it is hardly procurable.

When the glowing reports of loth present outputs and future enormius prefits are analyzed, what do we find? Mr. Elwood Caoper's crip, connted by some tens thousands if bet' s-what does it amount to compared with the hundreds of thousands of galleus of S ath ru E ropean single estates? As to not proceeds after deducting the heavy expenses Mr. Cooper has to defray, h could dis nehant r porters who now proclaim him making pi s of money, But his industry pays noverth Jose, Vicissitudes such as result in disastrously affecting now the wine in lustry in our Stat , will not fail to trouble occasionally the olive plant r. Competition of seed crs, the degrading work of a lulteration, the unitax of exeof productions from abread, must hinder the tranquil course of the clive product. But, the margin for normal profits will always he broad enough in Call ruis, to stimulate even enthusiasm for ave culture. Venturing upon naming a mean value in lien of the one dollar a bottle, or four dol lars a gallon of the pres nt, let us tak, off from the latter figure, say 4) p re ut., and eall \$21, a gallon the standard value for the future of a gallon of native good, clean, liquid olive oil, and the calculations of intending planters and those who await crops from new plantations, may be less fallacious than basing them up u present rates a decade h uce.

There is, and there will be, a growing demand for good pickl d olives. They are already a standard article of d t in grocertes in Southern cities, where the customers are served from the hig barrels open for ready choice. Paying attention to the production of good purpy olives with small seeds, choosing the proper varieties for planting, it may be presumed that in the preserving lye, melious of gellon measures of olives of our own preduction will find ready purchasers, and that valuable alim at become one of the staples on the table of Americans. P. PORNDERFF.

Irvington, May 27, 1588.

THE SEPORT of the comit g raisin crop is very satisfactory. The bern s in some sec tions have alr aly set fin ly on the vines and are as large as peas. In addition to this, there is a heavy toliage on the bushes. which will prevent the berry s from anabara. There will be a larg - quantity, we think, of wine grapes dried and run into what we term here ordinary dried gray -, but which we believe are now largely sold East as cur-

THE MERCHANT has a large circulate n in ock the varieties we have inherited-and the Eastern States.

M. Jolien Pignet, of St. Chamond, Lour. France, says that in Algeria there were produe d in 1557, 1,9 2 457 h stolitr s of win qual to 5 (415,000 gallons. Thise will produced on the lowlands have a kind of musty or earthy taste, called by the Fr nch In the midst of uncertainty to old in real people "an goat de terre," which could not h retofor be gotten rid of except by placing them in cellars for a period of at ast two years. In a letter und r dat of May 5th, 1958, M. Pign t says: "At the begiani g of April 1 put and r treatm ut, 1st R d Algerian wine, 1887. 2nd. R 1 B rd aux wine, 1556. 3rd. R-1 A'g-rish

"After twenty-fiv. days treatm at we examined the No. 1 A/g rian wine. T my great joy the wine was quite transformed. It had lost the teste of terre. It was silt and agreeable to the palate, having lost the hardness of new wine; the p rseu who furuished me with the wine imports wine from Algeria. He would not be it we that it was possible to ripen and age wine in glass v s sels. Who he compared the treated win with that not treated, he was greatly astonished it the result." After a long I tter Mr. Pignet adds the following postscript:

"I am pl as d to tell you b fore posting this letter, that we examined the N . 3 N yraud's Algerian wine, and that the succ ss has been as complete as the No. 1. 1 hmost important result of these two exp riments has been to prove that the bad tast of these Algerian wines disapp are completely by the effect of the treatment."

Evidence is accumulating every day of the immense value of Dr. Friser's discov ry. It e reainly eaunot fail to rev lutioniz th wine industry of the world, for nobody can afford to keep wine in cellars two or the e years and suffer a loss of twenty p reent by evaporation and handling, besides the loss of interest on the cost of the wine, the case of cooperage and cellars, besides lab r and insurance, while by the "Fras.r process. the above loss's and expenses can be mostly saved, and the wine fitted for sale or use inside of thirty days.

### THE AGE OF THE STARS

A very interesting addr so delivered at the annual public's ssion of the five acaden ics of France, October 25, 1887, by M dannseu, the director of the observatory at Mendon, France, is published in the cember numb r of Ciel et Terre and the January and February numbers of L'Astonomie. The principal thought is that the idea of evolution may be applied to the stars as will as to terrestrial things. The stars are not fixed and eternal, but are subjet to change and time. They have a b-ginning, a piri lof activity, a decline, and an end. By recent alvances in the study of e lectial physics, especially with the spectroscope, we ar enabled to ke w something of the actual condition and r lative ag if s m of the stars. assume that the age of stars, our r this being equal, wild palm a thir tim perature, and that their timp retures are higher in proportion as their sp ctra are rich r in violet rays. The maj rity of the stars which are visible to the nik dity are white or blush, and therefore at a bi b temperature: but many as ye w resang , lik our sin, showing that they have passed their y ath, while others ar from si lereal evolution is far advanced.

#### OF INTEREST TO SUBSCRIBERS.

A postmaster is required to give notice by letter (returning a paper does not satisfy the law, we us a subscriber does not take his paper from the ffice, and state the rens a fitte u t bei g taken, and a neglect to the publish r for the payment.

Any p read who takes a pap r from the post the , whith rid rected in his nam or that f au th r, r wh th r h has snbsomb ler not, is responsible for the pay-

If a promerder his paper discontinued, h must pay all arearages, or the publisher wines, 1886, 4th. R d Bargandy win , me continu to send it until payment is mul, and collect the while amount, whith rit is taken from the flice or not, The rear b up legal discontinuance until th pay at is mad

If ta so scrib r rl rs his paper to be topp I it a cream time, and the pubish r continues to send it, the subscriber is b and t pay for it if he takes it out of Tue law proceeds apon the gradthitamin st pay for what he

The curts have dead I that refusing to tak o by a result principals from the p s in is from f s evil nee of intentions fran i

## DUTY ON BOTTLED WINES.

The London Francial News, says that Mr. A fred Miner, Mr. G. schen's private retary, is at Paris with the object of seeking a basis f r the distinction between high and low-class wines, with reference to the willingness expressed by the Chancellor of the Exch quer to limit the application of th, wine duty to high class wines, worth 3)s. and apwards per d zen. From Paria Mr. Milner will proceed to Bordeaux to continue his inquiry, and may go on to Cette and Montpel ier.

Th British Chamber of Commerce in Paris has issu d a statement relative to the a w English duty on bottled wines It explains that the surtax on bottled wines is nothing but a simple fiscal tax, which is paid by the English consumer without causing any prejudice to the Fr neh exporter; also that it is not applicable to French wines alone, but to the wines of all countries, and even to the wines imported into England from her own Colonies. The diffor atid daty on bottled wines is not an English invention, as it has long existed in oth r countri s, and in the u w Fr neh t wiff for goods imported into Italy the duty in win s, which is but 20 france the hectolitre, or 15 c n imes a bottl on wines imported in the wood, is raised to 60 c utimes on wines imported in bottles. As to the Eugosh surtax, which is 52 centimes a botil , and only charged on high-class win s, as the ordinary descriptions can always be in; it if in the wood, it is moderate comper I with the data's charged in some oth r intries. In Russia, f r instance, the duty is about 50 centum s a bottle on wines imstel to the wo l, one franc 60 centumes ger beitle na still wines import it in bottl s, and four francs 40 ceutimes per bottle on sparkling wines.

G Zull, for three years manager and win - ik r at Gallegos Winery at Irvingt n, start d out f r Chicago on June 1.t, to represent there the old and v ry favorably dark orange t dark red, showing that their known vineyard and ee ar 1 H. W Crabb, of Oakvine

#### OHR. NATIVE WINE SHIPMENTS BY SEA.

TO NEW YORK .- PER SHIP Com. T. H. Allen, May 22, 1888.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
W & B	Downing & Schmitt	52 barrels Wine	2,408	8963
' S	Barton Estate Co	48 puncheons Wine	7,859	2.914
in diamond	Kohler & Van Bergen .	100 barrels Wine	4,969	1,987
In diamond	B Drevius & Co	500 barrels Wine	24,676	9.870
H S		60 packages Brandy	2,532	3,793
	Kohler & Frohling	58 package · Brandy	1,746	
v s	Landsberger & Son	50 harrels Wine	2,388	
C & Co	Lay Clarke & C>	72 barrels Wine.	4,320	
in diamond	C Carpy & Co	200 barrels Wine	9,700	
F		50 barrels Wine	2,450	980
B	1.61	25 barrels Wine.	1,230	
GI In diamond		25 barrels Wine	1,228	
		25 barrels Wine	1,231	493
in diamond		25 barrels Wine	1,235	494
B&S		27 harrels Wine	1,348	539
B W		26 barrels Wine	1,275	
44	whittier Fuller & Co	1 barrel Wine	50	
B&J	dechara & Jarek	I half-barrels Brandy	96	
A	Lachman & Jacobi	1250 barrels Wine	61,583	
S		75 barrels Wine	3,711	
B & J	46	50 barrels Wine	2,473	989
b	Vahles & You D was	50 barrels Wine.	2 451	999
D & Co	E Destar to the	815 barrels Wine	2,472	
H S	b brey tus & Co	50 packages Brandy	39,930 1,239	15,979 $1.848$
& F	Nobies & Frehling	250 barrels Wine	12,610	5.047
G & Co	A Greenbann & Co	115 barrels Wine	5.238	2,096
	I Gundla b & Co	100 barrels Wine)	0,200	2,050
11	64	20 puncheons Wine	8,078	3,231
4	Walden & Co	230 barrels Wine	11,365	4.54F
* C	4	18 barrels Wine	2,400	966
V Co		340 barrels Wine	16,340	6.536
L		610 barrels Wine	10,040	0,000
41		S easks Wine	35,300	14,120
14		204 cases Wine	0,000	248
	,			240
Total amount of Wir	e. 201 c seg and		269866	\$108,187
Total amount of Bra			5.604	

## TO HONOLULU,-PER STEAMER AUSTRALIA, May 22, 1888.

GUM & Co  Lalienthal & Co	40 case - Whiskey	8280
44 44	15 cases Wh skey	120
14 14	10 case Whiskey	70
HJ A pad Heriszthy & Co	15 kegs Wine 75	80
es es	11 kegs Wine	102
41 44	Payror Wine	
**	8 cases Wine	28
W M C	6 barrels Wine 297	242
WMGJDSpreckels & Bros	. 1 keg Wine 5	101
G W M & Co Kohler & Van Bergen.	. 11 ha'f-barrels Wine 365	865
"	65 kegs Wine	65
1	50 kegs Wine 250	250
46 / 41	35 cases Wice	170
FAS& Co J Martin & Co	9 casks Wine 555	375
EH & Co Kohler & Frohling	2 casks Wine	
44	3 14-casks Wine	
14 44	55 kegs Wine 630	470
P in diamond Cutting Packing Co	4 kegs Wine 40	37
B & Co Cal Transfer Co	5 cases Brandy	160
L & Co Lachman & Jacobi	6 half-barrels Wine)	100
46 AG	20 kegs Wine 26	000
G in diamond D Gedge	20 kegs n in	222
o th diamond D Geage	. 173 kegs wine	2.004
CTW b Co	23 cases Wine	1,034
GUM & Co Spruance, Stapley & Co	611 cases Whiskey	482
W C P & Co	40 cases Whiskey	370
L & Co	15 cases Whiskey	124
		—I
Total amount of Wine, 66 cases and	4.390	\$1,035
Total amount of Whiskey, 180 cases and	************	1,346
Total amount of Brandy, 5 cases and		100

### PER P. M. S. S. CO'S STEAMER ACAPULCO, MAY 25, 1883

FD 49				
r G	C Sch lling & Co 1 barrel	Wine	481	\$ 45
A ) C	**   150 barı	els Wine	7.258	2,900
J.C	C Carpy & Co 25 harre	s Wine	1.233	93
M in diamond	Kohler & Frohling 50 harre	ls Wine	2.517	2.517
F H	Cal Transf r Ca 16 harre	s Wine	960	500
F A P	Stateon & Adams 50 harre	ls Wine	2,030	812
CDK	Lachman & Jacobi 10 34-pu	15 William W.		
B in d'amond	S. Lashman & Jacobi 10 94-pu	neneous wine	1,076	348
B in d'amond	S Lachman & Co 20 barre	ls Wine	1,255	402
J P	Trapolii, Berges & Co 23 barre	ls Wine	1, 95	469
	2 barrels	Brandy	92	167
J D W S & Co	Williams, Dimond & Co 16 punct	neons Wine	2,500	1,500
I W L	"   26 cases	Wine		150
B D & Co	B D eyfus & Co 100 barr	e's Wine	4.890	1.600
44	** 10 harre	ls Brandy	492	800
	120 00010		402	
Total amount of Wine	26 cases and		20.749	\$13,926
Total amount of Brunds		**** *** ******	92	167
Total amodite of 19139		·	92	101

### TO CENTRAL AMERICA.

F. E. & Co, Puntas Arenas Parrott & Co 2 half-carrels Whiskey	52,	8226
J S, San Jose de Quatern B Dreyfus & Co 12 cases Wine		. 0
P B in half diamond, " 18 cases Wine		85
P B in half diamond, " 18 cases Wine N M & Ca, Puntas Arenas Joho T Wright S kegs Wioe	80	59
J H P, Acajutla Urruela & Urioste 6 cases Wine		48
S T, Aesjutla	15	11
Total omount of Wine, 36 cases and	95	\$243
Total amount of Whiskey	52	226

### TO IRELAND.

D & B, Dublia	C Sbilling & Co	2 barrels Wine	94	\$75

# MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSE(	RIO.	OALLONS	VALUE.
Canada Victoria Mexico	Cmstilla Y	Steamer Steamer	50 158 791	\$23 134 340
Total			999	\$497
Total shipments by l'ar Total Miscellageous shi	ama stesmers	299,7 5,4	09gallons \$	122,354 4,607

305,192

\$126,961

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# LIQUID ALBUMENS.

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Zinfandel, Claret, Burgondy and Port.

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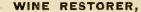
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#### CALIFORNIA WINE INDUSTRY.

From the Grocer and County Merchant, we ather the following facts relative to that hich we believe is destined to be Califoria's leading industry: The wine industry f this State promises large developments, wing to the adaptability of several sections the State to the growing of wine grapes. he first wine grape vine was propagated g the Franciscan Friars who founded the ission of San Diego in 1769. It is cluitathat the vine came originally from exico, and owing to its successful cultivaon was propagated at all the Missione, and nce came the name of Mission grapes. his variety was the only one cultivated upthe time Col. Haraszthy and the late has, Kohler went into the industry. They morted vines from European wine disicts, the first being Zinfandel. The sucs-ful introduction and cultivation of them tract d attention to the adaptability of e State for the production of clarets. The erman vineyardists adhered to the Rhine rietics of vines, which have brought Calirnia white wine so favorably before the orld. Other pioneer vineyardists propated many varieties of German and French nes. The number of acres in this State t out in vines is placed at 230,000. This gregate, however, is not entirely of mare vineyards. Of this number 140,000 e in five years and upward vines -- it takes ree years for vines to reach their produce state. Of the vines about sixty per ut are wine grapes. It is roughly stated at there are a little over four thousand negards in the State, which are being ded to each year.

The vintage of the last ten years have en as follows:

7	6													٠		3,750,000
7	7	٠.					9									
		}														5,009,000
		١.														5,000,000
		١.														
																7,000,000 10,000,000
																8,500,000
																15,000,000
																9,000,000
																18,000,000

This years production is variously estisted at from 15,000 000 to 20,000,000 galas. Had the vines escaped the climatic anges in the forepart of the fruitage sca n, the yield would undoubtably have gone high as 30,000,000 gallons. It is not at unlikely that the introduction of connsing must machines will aid very mateally in increasing the output as wine, by em many thousand tons of grapes can be cored that go to waste owing to wine inufacturers not being able to care for nit during the heaviest picking.

A well-known anthority on California ne wrote about two years ago that it all be scarcely possible to speak of all e different varieties of grapes by name at are used in the manufacture of the rious products. There are over 250 varis of vines now being grown in the difent parts of the State, while there are no ver than 300 varieties in Crabb's experintal patch at Oakville, in Napa county. nerally it may be said that for the best adea will be the same as those grown ar Bordeaux, Burgundy, Hungary, the rth of Spain, and the south of France, r our white wines the selection will be se that have made such a name for the Rhine, Sauterne and Spanish districts. e port wines, with modifications of the ick Burguady and Tronsseau, will be ose of Portngal. For brandy the grape ncipally cultivated will be those of the reduced in the proportion of 51/2 to 1, the

Cognac varieties, especially the Folle Blanche and Columbara. In fact, so admirably provided is California with every variety of climate that it contains within its borders the same climatic characteristics which obtain in France, Italy, Spain, Germany and Hungary.

#### THE NEW TAX ON BOTTLED WINES.

In an article in the Economiste Français, on the subject of this tax, M. Lalande says -"This measure has been greatly resented in France, not only because it seriously injures all the wine interests, both from the commercial and agricultural point of view, but above all because it appears to have been directed especially against France. Lven admitting that the Euglish Government did not intend to treat French products more harshly than similar products of other countries, the fact remains none the less that it has done so. This is evident from the consumption of the wine of differens countries in England in 1887, which was at

r 1 Red Wipe	Hogshends, 19,200
France   Red Wine	7,700
Portugat	15,000
Spain	18,600
Other countries	8,000
Total	67,900

Now the wines of Portugal and Spain are hardly ever imported to England in bottles, they come in casks; therefore the new tax does not affect them. Among wines imported from countries other than France, Spain and Portugal, a small quantity only coming from Germany will have to bear the charge. But it is easy to see how French wines will be particularly and gravely af feeted. Our exportations to England during recent years have been approximately as

Wines in cask.	Hectolitres equal 30 gals
From the Gironde	
Other parts of France	. 25,000
From the Gtronde	40,000
Other parts of France	

That is to say, the wine exported in bottles, amounts to about two-fifths of the whole, and represents 16,000,000 bottles, which will have to pay about 7d. a bottle, or £480,000, in duties,

"The English Government can, and will certainly, answer that it is a general measure taken against the wines of all countries, and not against French wines in particular. In appearance, this is so. In reality, it is not! It is just as if France were to pass a law to-morrow to tax all woollen imports with a duty of 20f, per 100 kilogrammes, This import would be in appearance of a g-neral character, but in reality it would only affect two countries-England chiefly, and Belgium. As a fact, besides our importations from the wool-growing countries themselves, we receive annually from Eugland about £2,800,000 worth of Australian wool, about £1,200,000 from Belgium, and hardly anything from other countries. We are not proposing a measure of reprisals here, but merely give an example of a measure analogous to that which England has just taken, which, while appearing to be directed against the products of all countries, in reality affect only those of one or two.

"Before 1860, French wines paid a duty in England of 5s. 6d. per gallon. Since then they have only paid 1s. per gallon, The result of the reduced duty has been that the consumption of French wines has increased from about 3,000 to 30,000 hogsheads. That is to say, the tax having been consumption has increased in the proportion of 1 to 20, and, with the duty so largely reduced, the English Treasury has received about double what it did before. To-dsy the cituation changes. The duties on buttled wires are more than tripled. It is the first step that England has taken in the puth of economic reaction, in the partial abandonment of that wise and fruitful political economy which has raised the prosperity of England to so great a height; and France is the first victim of this reactionary policy."

#### PHILOSOPHY OF STRANGULATION

The New York State Commission which reported in favor of the substitution of death by electricity instead of hanging to the case of criminals condemned to death is not having its own way without opposition. The well-known Dr Hammon bately criticized the report at a meeting of tho Society of Medical Jurisprudence with the vigor characteristic of the man.

He says that death by electricity would phylate none of the objections to the preaent system. We have no means of knowing what degree of pain might not be inflicted, and it would be difficult to insure death in every instance. If the electric shock mere ly stunned the convict without killing him, he would come to life afterwards and the whole job would have to be done over again. The scene would as now, be one of sheer brutality, calculated to shock the sensibilities of bystanders.

He recommends hanging as the most effective and humane method of inflicting capital punishment. But he objects to the present system, He would have the culprit seated in a chair in a room in the jail and securely bound with his face covered. Round his neck one end of a rope should be scientifically adjusted, the other end should be run through an ordinary pulley fastened overhead. At a signal the rope should be hoisted to a height that would lift the culprit's feet above the floor, and he would there be left to strangle. The merit of this plan, according to the doctor, is that it is pain, according to the doctor, is that it is painless. Strangling, it seems, involves no suffering. A man who dies by strangulation first feels great heat in the head, then with a slow heat.

sees bright objects dance before his eyes. hears sounds either musical or roaring, feels his feet unuselly heavy and then relapses into insensibility. The doctor declures that no point in the operation does the patient suffer pain.

We give Dr. Hammond's views for what they may be worth. Public opinion has pretty well settled down in favor of capital punishment in certain aggravated cases of crime. The opponents of that punishment, who once constituted a political party are now a mere handful of doctrinsries. If we are to kill criminals, it is due to our civilization that we do so with the least possible barbarism in our methods. Hence the de. bate between the doctor and the Legislative Committee is not devoid of interest -Er.

### A RAININ GRAPE.

The raisin industry of California promises to become very important and fairly remunerative. The climate of the central and southern part of the State is most favorable for drying the fruit, and there is the center of this enterprise, says a writer in Vick's Magazine for May. The two important factors in raisin making are a suitable variety of grope, and a dry climate-one not subject to dews, fogs or rains for weeks while the fruit is drying. Though the region of California mentioned is not exempt from logs and rains, yet they are infrequent and the necessity of protection to the drying fruit is not experienced often enough to make that feature of the work very burdensome. The variety of grape from which the raisins are made is the Muscats of Alexandria, which is better known to most of our readers as the Malaga grape of the shops, which comes to us from Spain, packed in cork dust, in small casks. A white grape makes a raisin of better color than a red or dark ove, though in Europe both red and black varieties are used to some extent. In Santa Clara County, where the temperature at drying season is not so high, nor the air so dry as more southern counties, the grape growers have resorted to the use of dryers and evaporators, and with success, and the practice is extending; many tons of raisins were made there, in

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We will offer a full line of other Grocers' articles shortly.

#### LABOR FOR VINEYARDS.

The question of laborers for our vineyards has been one which has rec ived the attention of our Viticultural Society, and numerous ways and experiences have been related by the members. Some find in the Chinese good and effective help; others look to white labor, French and Portuguese others look to colored labor, though we do great extent

A. P. Butler, the great raisin man of Fresno, has imported several colored men from the Southern States, and employs them in his vincyards.

We take the following from the Fresno Democrat which will give an idea how the plan succeeds in that section,

"Are they satisfactory?"

"Very, indeed. In fact, I am so much pleased that I intend to give an order for an extra lot to harvest the grape crop."

. How do you find this labor as compared to Chinese?

"I greatly prefer it. The colored people work more cheerfully and are physic. able to do more of it than Chinam D. S. far as I have tri d them they do at lat 25 per cent more work at a much less cost. Another strong argument in favor of the darky is that he is always willing to week, and unlike the Chinaman, he can und rstand the English language, which is quita consideration when you have a good many about you."

"I see you have a good many women on your plantation. What do th y do?"

"They work in the field alongside of their husbands and children, just as they have always done in the South,"

"Can they do as much work with a hoe as a man?"

"Working with the hoe is comp.ratively light, and the women seem to keep up with the men without any extra effort. ing grapes and handling fruit the women will surpass the men, just as they do in the cotton fields-and then, too, they will have a salutary influence on the children who work with them "

"Are the darkies early risers, or do you have trouble in getting them out in the morning?"

"I don't have the slightest trouble. They rise earlier than Chinamen, and are not only kind and sympathetic, but conform cheerfully to all my rules."

"From what part of the South did you get your help?"

"They are from near Hickory, N. C. They are all farm hands-ache of them have lived in large cities-which is greatly in their favor. Those who live about the cities are usually unfit for reliable work.

"You state that you are satisfied with them. Now, how is it with the negroes? Have you heard them express themselves on this point?"

"They have nearly all taken occasion to express themselves as delighted with their surroundings. Many of them have written to their triends to come to California as soon as they can raise the money."

"Are their any skilled mechanics among them?"

"Yes, In my crowd there is a first rate blacksmith, a carpenter and an engineer, however, when not plying their regular vocations, they don't hesitate to perform field labor.

"How about the morals of these prople Do they have any specific religious inclinationa?"

people I ever saw. I have never heard don. In 1886, 4,993 chests, worth 374,4771, them use an oath since thy have ben with me. As to their religious predilections, they are particularly anxious for a place of worship, and I have promised to build them a nice church in the town of Butler in a short time. They all have bibles and prayer books and spend the greater port of each Sauday singing hymns. Uncle Jack Philips, the oldest man in the not think the latter has been tried to any lot, about fifty years, is looked upon as Unele their leading man and adviser. Jack is honest and intelligent, and seems to take special pride in having the young fellows deport themselves well. Another influential man among them is William Bridges, a minister, who has a very correct idea of what is right and is a very reliable man,"

#### SACCHARINE.

The employm at of this article in medieine is steadily increasing. The following condensation from an article in the Journal des Fabricants de Sucre, shows the attention now being given the subject by French physicians;

Certain | hysicians have asserted that the use of a dose of our-tenth of a grain daily by diabetic patients produced no inconvenience, but the contrary was asserted by others, and the question remained unsettled. Dr. Worms, who read a paper before the Academie, found that in the case of four diabetic persons, to whom he administered the above dose, only one felt no inconvenience during a period of two months, the other three suffered from disorder of the digestion, which compelled them to give it up after a forthuight's trial, and one of them, on attempting to recommence the use of the saccharine, again experienced the same symptoms. The first desideratum being to keep up the digestive powers, it would have been very imprudent to continue the use of the saccharine, which would thus appear to be likely to produce bad effects, if its use should become general. M. Dujardin-Beaumetz agreed with Dr. Worms that the facts, which he had not remarked himself, but which cone the less exist, however they may be explained, constitute a question of some gravity, and that, whether considered from the point of public health, or of the Treasury, or in connec tion with the national industry of sugar manufacture, the attention of the authorities should be drawn to it. Dr. Worms inclines to think that saccharine is indigestible and disturbing to the digestion. Sugar is a food, saccharine is not. It is the confectioners who are the most interested in this product which would enable them to do away with sugar in their manufactures, as they have already dispensed with fruits. It would not be the least marvellous among the food adulterations of the age if we were to have preserves and similar articles which contained neither sugar nor fruit. On the eastern side of France a compound is said to be now sold under the name of Sacre de Cologne at 25 centimes (31/cts:) the pound, the nature of which appears doubtful, hut which has great sweetening power, and is of a yellowish color.

# OPIUM CULTIVATION IN PERSIA

Opium occupies the first place in the foreign trade of Persia, says the Chemist and Druggist. It insures the largest and most direct cash return to the producer, and, as a natural consequence, the area under cultivation is increasing rapidly. The two "They seem to be as moral as any set of principal markets are Hong Kong and Lon- duty, and he shall not be liable to pay or

were exported from the ports in the Persian Gulf, exclusive of what was aent away by land routes or was consumed in the country itself. The quantity of morphia contained in Persipn opium is 111/2 to 12 per cent, while in other opium producing countries it rarely exceeds 91/2 per cent. Papaver somniferum, or white poppy, of which opium is the inspissated juice, is grown principally in and about Ispahan, Yezdand Shiraz, that of Ispahan being superior both in quality and quantity. The preparation of the land begins about September 5, and consists in plowing, harrowing, fertilizing abundantly with ashes and detritus, and laying off into squares to facilitate irrigation. After sowing, the fields are irrigated three times, at intervals of fifteen days. After that there is only one more irrigationabout the middle of the winter. In the spring, irrigation takes place on March 20, after which the land is repeatedly harrowed and hold in order to extirpate all parasitic weeds. The plants are thinned, and then watered every ten days until flowering begins, when all work must cease. When the heads have formed and have fully ripered, a last flooding is given. Then six slight incisions are made at about the junction of the stem with the head. This should be at noon. The juice that exudes is collected the next morning and the morning following at daybreak. When these first incisions have ceased discharging, others are made lower down, and the operation may be thus thrice repeated, the opium obtained after each successive incision being proportionately inferior quality. Next, the plants themselves are cut down and the heads sold, the natives using the seed on bread as a substitute for butter. The end of May is the season for harvesting.

## AN ADDITIONAL DUTY ON WINES.

The new additional duty imposed on all wines imported in bottles into the United Kingdom is called (for technical reasons of no interest to our readers) a tax, or sur-tax. The main point is that it is 5; a dozen and is levied by the Customs authorities as fol-

Tot. Duty Tot. Grap Duty, Tax. and Tax. per G dio 4-0 7-6 11-6 2-104/ 3-0 5-0 8-0 2-8 2-0 5-0 7-0 3-6 1-6 2-6 4-0 2-8 1-0 2-6 3-6 3-6 6 d 2-6 3 0 6-0 Magnums.....doz. 

It went into effect immediat ly, but the English Law provides - Customs Laws Consolidation Act, 39 and 40 Victoria, cap. 36 sec. 20:

"In the advent of any increase, decrease or repeal of duties or Customs chargeable upon any goods or commodities after the making of any contract or agreement for the sale or delivery of such goods duty paid, it shall be lawful for the seller, in case such increase shall accrue before the clearance and delivery from the warehous of such goods at such increased duty, and after payment thereof, to add so much money to the contract price as will be equivalent to such increase of daty, and he shall be entitled to be paid and to sue for and recover the same; and it shall be lawful for the purchaser under any such contract or agreement, in case such decrease or repeal shall take effect before the clearance and delivery from the warehouse at such decreased duty, or free of duty, as the case may be, to deduct so much money from the contract price as will be equivalent to such decrease of duty or repealed

be sued for, or in respect of auch deduction."

So that no serious inconvenience was

At a general meeting of the wine and spirit trade of London, called to consider the subject, the following resolution was adopted: "The wine and spirit trade approve of the surtax on bottled wines, and would gladly see the principle extended to foreign spirits imported in bottle."

# An Average Vineyard.

Webster Treat of the Oak Shade orchard cultivates about fifty acres of Muscatel raisin grapes. The vines are now about ten years old. In 1886, this vineyard yielded 70,000 pounds of crude raisins. This year he packed 40,000 pounds from the same vines. He packed his entire 1887 crop loose and realized about \$1.40 per box therefore. Mr. Treat estimates that the cultivating a mature raisin vineyard, per acre, including picking, curiog, packing, and marketing his crop, at about \$10. Of course this estimate is subject to contingencies, but is as close to the fact as a general statement may be. Basing a calculation upon this statement then, we arrive in conclusion that Mr Treat charges up about \$500 expenses against the vineyard per year. Taking the two last years together, the total yield was 110,000 pounds, or 5,500 boxes. Supposing he averaged \$1.40 per box, the gross returns for the two years from this fifty-acre vineyard were \$7,700. Deducting \$1,000 expenses for two years and there remains \$6,700 net profit, au average net profit of \$3,350 per year, or \$67 clear gain per acre. These are not boum figures concocted for the purpose of deceiving the credulous tenderfoot. We believe this representation is a fair and honest showing of what there is of fruit culture in and around Davisville. When it comes down to soher fact, no locality in the State can justly boast of a better average, Of course we could cite instances of as high as \$100 to \$200 clear profit per acre, from fruit culture around Davisville, but it is not necessary to dilate on these instances to prove the capacity and adaptability of our soil for fruit culture. It is true that mature fifty-acre Davisville vineyard cas be run for \$500 per year, and that the gross proceeds therefrom will approximate \$3,350, leaving a net profit of \$2,850, that ought to satisfy anybody who doesn't want the earth, with a barbed wire fence around it. - Davisville Signal.

# GREAT WORMS ON THE VINES

The vineyards in the upper part of Napa valley are said to be suffering considerably from great striped or spotted caterpillars. They are larvae of two species of Sphinz motus or humming-bird moths. The moths are seen hovering about the flowers in the evening and are particularly partial to verhenas. These worms have done much harm in other years in our vine districts. Around Woodland and Fresco they were very abundant many years ago. There are two ways at least of fighting this pest. The moths may be stricken down and killed in large numbers in the garden and thus future hatches of worms prevented. The hest way to treat the worms on the vinea is to spray with Paris green-one pound to 150 gallons of water. This is death to all leaf-eating vermin.

The MERCHANT is the only recognized wine journal on the Pacific Coast.

#### ITALIAN W NE.

The present of the . . . France, aliest 2. at a 3 . . as, observa L D ill ovrte c iz 1 rom a factor, a c ng the soft. Prance, consil ri g 'a not al fith g i f. . ; ' , the 10 iss \_s \_ h

The Ita will reasing 1 m i 1 . dia vari ru . L ions w re Unfor a 3 per

toe hit ti b par . E advices d price of he South, w produced, s h as w r . . . l t . . Bord-aux trel N ... people and the state of the utmost to eff t new mark ts. Their sal smen ar fin 7 ov

small territory of Switz tandl, a field for the wine trad -, but alm st . . . . cant as compared to the enormous of its neighbor. In 1887, Italy have produced nearly 700 millions 1 g . tons of wina, or more than Fran by zoodly quantity, and the twenty millions annually imported into Switzerland would only be a short relief. Outsid of this trade the only outlets of any magnitud are South America, which us about 15 millions of gallons from different sources, and England.

It may easily be inferred that if F ance closes her doors to Italian wine, she cor tainly will not have any to export, and thus, the trade of South America and of England will naturally fall to those who furnish wine at low st figures, be it Spain or Italy. It thus follows that while a protective tariff may benefit the French vine-growers. It style at the first villating will be at the expense of the French cousumers, and that Italy will be compelled to bid for every available trade in order to dispose of her enormous surplus of wine How, therefore, such a state of things could benefit us, as some assert, it would be difficult to imagine. We certainly connot compete with Italy in the markets of the world that are equally open to her, and we certainly cannot expect France to discriminate in our favor against herse f

But, why should we think of for ign markets, while our own home market is as yet almost underclosed? The peculiarities of American people may require different methods of persuasion, but while right is on our side, we should boldly uphold the doctrine of true temperance, that teaches all men to use properly of the blessings which Providence has bestowed upon them. The results of fanatical probibition are already well known, and the nurvoidable reaction the release 550 to grant has set in. Let each one be taught how and when to use wine as a heverage, and a market is found for twenty times our pres-1. D. Сомик. ent yield of wine.

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#### DISTORY OF A BAISIN GRADE.

B ! rks gar a the following br f hist ry - a ruslu grape, in the Murced Str. . ... r at cace in: resting and in-

I: January, 15-1, it was a little stick sixt han his leng, about as large around as of most the size of a pipe stem. It had just ben cut from an old vine and had six this distribut dialong its sides. At the highest market value it was worth one · r dac nt.

At a F broary 1st it was plant d twelv arch s pin the nalst of a square pice f m.l. suring signtfetou a side. Tw b d. w.r. expose labove ground, the land a si r ner , e st about four' en ce ts

A salte or ista pre on s bouth 1- rand halifs if in fatt in in the

In J. very, 1851 the two bruches which 1.1g thre fet and from the two b .s. r cut off so close to the vine that I als were left on a branch. vot nlklyrymie ff. itdd a cit was on y a little stick the y ar b

to it I vlit the branches which sprang o i. Is hal grown o le alto bid sin far brauches on sister vin s

At at 8 ptember 20th, two nice little less of mesent grapes were at film the imp his near the vine and lack upon the great. The truch swight dig ther

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To pas is ray lifted the two little . h see for your of the sweat-box, and It as a sy and test: y in a control x, med with pier, h . , p mas f similar r isi s H . Ith in their new dr sa at whe said at lover proposed, or 5 outs fir the w t lec. st. m dry mg v n t . v = 1 bays ir oght =34

1. retail real to bex exteining the with as f sinsfrolents, ma

In July v, 1884, the vin was again r 1 by having 1 s to in h s cit back as

In S ptember nine pounds of grapewere cut from the vine and laid upon the ground to dry.

About November 1st the wir so la b for , in the sweat b x, at 4 % c - 18 p : pod. The mi ponts of a b methrepounds of rate, s, a 11. . 13% c ms, very n a you r tofin in i or \$31 80 per acre.

The pack r sold them to the retail r f . 30 cents, or \$204 p riers.

In the fall of 1853 the via vi d 1 131 In pack r soil than f r 45 ats r

In the fac of 18-4 the view in 1 1 1 1 12 last pin to the d I as The was to the

SIJE UJI FAF

I he for f 1885 to vi to 1 a 27 

The pack r selling them for 90 cents, or \$612.00

### BOGLS WINES

The Commercial Advertises, of New York has been looking into the secrets of the old bottle warehouse and finds that in this city the old bottle business depends almost entirely on the maunfactured wine trad s, and says one can get a pretty good idea of the extent of one by the size of the other. It would surprise most persons to know that something like 10,000 bottles are filled with strange and spurious compounds and sent out for pure imported wine in New York every week. But this is the case, nevertheiess. The thing is ansceptible of proof, when you see bottles labeled "Bordeaux." "St. Julien," " Chateau Marganx " and "Medoc" lying side by side in the same bin and you know they will all go to the same cellar and come back full, each with a different label on it. Foreign labels are easily come by in New York.

A dealer in old bottles talked confidentially with your reporter, and picking up a bottle, he said: " Here is a bottle for which we get 15 cents. It is made rough and dirty so that it will look as though it were covered with dirt and had just been tished out of some old 1805 bia. This hottle is an important thing to gentlemen who are engaged in this particular kind of swindle, because it emples them to put on the market so-called wine that sells for \$3.50 a bottle and costs 35 cents a bottle to make. We s all out our bottles by the hundred dozen, to big houses that are putting up all kinds of manufactured wine. They are not only our customers, but others are for smaller amounts and occusions hottlers of s Here native wine and rectifiers of is a curious fact. I have used that the bottl rs of pure American win ut care iouch about the shape of their b - They are satisfied to put wine into any ang that is suited and clean; but men who impound the stuff from drugs will have nothing but shapes that have been recognized by long terested in olive culture in this valley. custom for each kind."

Tag entire plant of the J. Lusk Canting Company has ben sold at a tin a a syndicate enurosed of H 1 Smith, Isadore Jacobs, and M. N \$18,0 0. The gentlemsyndicate are all well kn w v .si ness men of San Francis, we rin the business in good sorp , we fair crops and labor at reasonat per 4, the canneries will operate to their full capacity.

#### GRAPE PERFILIZERS

I to was discused at a recent L . \_ \_ ca Lake graj e growars,

1 . : B ... r tr. d sowing his viney t with a nith rows, and plowtadrahuitwsgrwnrp, with in b to a. s. Dr. Sond no I berayard ... . .. . . . . and s and bous fer h.Z r. possils of grapes, were been that it and, on a cay so, used ince, particles of raisins. They were all to the contract of the Goods Sandreau will conform the carfor 20% courts, r \$137.7 profession to the contract of the con on and conduct des the . . . . . . . . Pr sil ut C. da qua v nyaraista ..... asil, Ling n, .. . al p'ush esl's.

-u al L Il. We v ja le are I w .'r a · to mate will

#### WINE AS A BEVERAGE

Dr. F lix L. Oswald, in Popular Science Month y, says: "It is, indeed, a remarkable circumstance that in the home of the best wine-grapes, in Greece and Southern Spain. drunkeness is far less prevalent than in Scotland or in Russia and Poland, where Bacchus can tempt his votaries only with manscous vodka." To this very significant observation, from a great authority, it may be added that intemperance, in all grape producing and wine drinking countries, is far less than in the non-grape producing, and rum, whi-ky and gin-drinkg in conptries. Therefore, all rational temperance men, like those of France and Germany, should advocate wine as a heverage to the exclusion of distilled alcholic liquors; and, like them, whenever it may be necessary, pledge the people against their uses in social life, as proue to lead to appulling abuses, such as now disgrace, in many nations, including our own, the civilization of the age in which we live.

#### THE WEIMORE OLIVE ORCHARD

Chas. A. Wetmore's olive orchard on his "Cresta Blanca" catate is now six years old, and every tree is a perfect mass of blossom-bads. Better evidence of the fruitfulness of the olive in this township cannot be wanted, than is obtained by a visit to this orchard. Here, too, may be found out something regarding the needs of the tree. On fairly good shallow soil, underlaid by rocks, it does not thrive; neither does it do well on clay soil with insufficient drainage; tht on deep, dry loams, particularly on the hillside, the tree makes a rank growth, and will this seventh year, yield a large crop. Small and large trees are equally well loaded with fruit-buds, each in proportion to the amount of wood. In a few weeks the berries will be set, and this orchard should then be visited by every person in

## An Olive Pertilizer.

The correspondent of the !Citrograph in Southern Europe, says that along the Riviera, where olive plantations are numerons, the farmers very commonly fertilize with old woolen rags. These are purchased in bales for that purpose and are placed in trenches dug around the trees,

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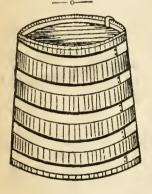
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#### A INEFUL HINT.

Nine persons out of every ten, with a cinder or any foreign substance in the eye will constantly begin to rub the eye with one hand while hnuting for their handkerchief with the other. They may, and sometim - do, remove the offending einder, but more ir quently they rub till the eye becomes inflamed, bind a handkerchief around the head, and go to bed. This is all wrong. The better way is not to rub the eye with the cinder in it at all, but rob the other eye as vigorously as you like.

A few years since I was riding on the engine of the fast express, from Biugham ton to Corning. The engineer, an old schoolmate of mine, threw open the front window, and I caught a cinder that gave me the most excruciating pain. I began to rnb the eye with both hands. "Let your eye alone and rub the other eye, (this from the engineer.) I thought be was chaffing me and worked the harder. "I know you doctors think you know it all, but if you will let that eye alone and rab the other one the cinder will be out in two minutes," persisted the engineer. I began to rub the other eye, and soon I felt the cinder down near the inner canthus, and made ready to take it out. "Let it alone and keep at the well eye," shouted the doctor pro tem. I did so for a minute longer, and looking in a small glass he gave unthem I have tried it many times and have H. M. Newhall & Co. advised many others, and I have never known it to fail in one instance (unless it was as sharp as a piece of steel, or something that cut into the ball and required an operation to remove.) Why it is so I do not know. But that it is so I do know, and that one may be saved much suffering if he will let the injured eye alone and rub the well one .- [ M dical Summary. ]

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attention of wind and eider makers to

and forth under the press on a railroad two baskets, by which you can fill the twille the first one is under the press, globullet the amount of work that can be serew or lever press in the market that basket, for this reason: While my press or time under the domain which the other kinds are doing ordina usly the other kinds are doing nothing during the time they are emptying and fill-

is working continu u-ly the other kinds are doing nothing during the tine they are emptying and filling their bask t.

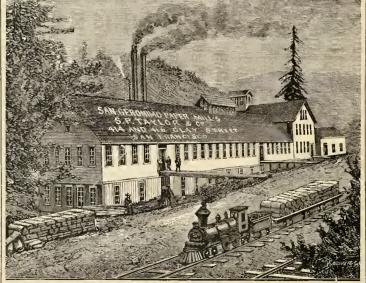
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e		
S	LEAVE FROM JUNE 10, 1888.	ARRIVE
1	7 00 a   for Sacremento, and fer   Re ding via Pavis )	7.15 ₽
e	7 20 a For Haywards, Niles, and	*12.45 P
e	8 00 A For Martinez, Vallejo, Santa i	G.15 P
	8.30 A Fast Mail for Ogden and East. [ForNiles, SanJese, Stockton,]	10.45 ▲
2	9.00 A Galt, lone, Sacramento,	5.45 ₽
v.	Marysville and Red Isluff ) (Los Angeles Express, for Freeno and Los Angeles	
t		12.15 P
-	2008. [goles.] 10 30 a For Haywards and Niles. 12.00 M For Haywards and Niles 1.00 r Sacram nto River Steamers. [For Hywards Wiles and Niles	2,15 P * 8.45 P
-	*12.00 M For Haywards and Nilea	* 6. 0 a
e	3.00 plicot majoratus, mies, and	9.45 A
i e	3.30 P C ntral Atlantic Express, for Ogden and East.	12 45 r
	4.00 p { For Stockton and Milton; }	10.15 A
e	( Sur Sassay outs and for	
è	4.30 P Knight's Landing via Davis	9.45 A
6	4.30 p For Niles, San Jose and Livermore	* 8.45 A
ž	5.30 r For Haywards and Niles	7.45 A
ı	G.30 P Sacramento, Marysville, Reddin , Portland, Puget	7.45 A
	Sound and East  (Sunset Route, Atlantic Express, for Santa Barpara, Los Angeles, Denning, El Paso, New Orleans, and East	8,45 p
	SOUTH PACIFIC COAST RAILWAY DIVIS	ION.
ì	7.45 A Santa Grand	8 05 P
	(For Newark, Centerville San Jose, Felton, Roulder	6.20 P
	* 2.45 P (For San Jose, Felton, Boul-)	10.50 A
	4.15 P der Creek and Santa Cruz for Centerville, San Jose, Almaden and Los Gatos.	9.20 ▲
	NORTHERN DIVISION (FOURTH AND TOWNSEND	
	- 15       For Menlo Park and Way )	2,30 P
	Monterey and Santa Cruz	8.35 p
	(For San Jose, Gilroy, Tres)	
	Monterey Salinas San	6,40 p
	Miguel, Paso Robles and Templeton (San Luis Obia-	0.40 P
	po and principal way sta.	4.00
	Way Stations	4,36 P
1		5,42 P
	principal Way Stations )	10.02 ▲
ı	4 30 v   For San Jose and principal }	9.03 .

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OCEANIC,		. SA'	TURD	AY.	SEP.	. 8th
GAELIC						
BELGIC		THI	RSDA	Y. Or	T	18th
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VOL. XX, NO 6

SAN FRANCISCO, JUNE 22, 1888.

PRICE 15 CENTS

# Report of the President of the State Board of Viticultural Commissioners.

Continued from the S. F. Mazonast of June Sth !

It will be well to state here that we have no easy means of ascertaining how much wine and brandy may have been shipped verland by rail, to be afterwards forwarded rom some Atlantic City to some for-ign country. It is known however, in a general way, that notable quantities of wine and randy, have thus been sent across the continent and reshipped to Europe. Neither have I ready at hand a means of ascertaining the amounts of these products sent by ail to our sister republic M-xico, and yet hey must be considerable.

The tables of sea exports of brandies rom our port to foreign countries naturally follow those of wine, and though for he present this branch of the wine trade loes not figure up largely in amounts, it is nevertheless of considerable interest, and ecently shows very decided and encouragng gains. As our wines become more dentiful, and when those haleyon days for iticulture will arrive, when all the poor rines will be distitled and only the good nes be sold to the trade and the consumer, hen our brandy production will increase, aurplus arise and a large exporting trade e possible. These tables may then be of ome interest and value as a matter of eference and comparison. For the presnt, not being of as much consequence as he wine tables, I have simplified and someshat enrialled their compilation.

#### Alifornia Heandy Exports by Sea to New York and Foreign Countries from San Francieso from 1875 to 1887 Inclusive.

	TO NE	W YORK.		Total
cars.	Gallons.	Cases.	Value.	V
875 876 977 879 840 841 843 844 845 846 846 847	49,352 37,945 64,378 84,794 95,608 95,941 58, 36 43,368 34,962 18,328 11,169 19,173 34,710	74  6 6   	\$111,041 \$4,071 141,850 190,758 205,118 215,748 129,495 96,379 79,681 41,875 25,027 37,702 67,413	Years.   1475   1476   1476   1476   1476   1476   1476   1476   1466
otal	646,554	117	\$1,429,240	Fotal

	TO CENTRAL	L AMERICA.			TO JAI	N.	
l'ear.	ria'lons	C sea	Value.	Years.	Gallons.	Cases.	Value
415				1875		1	111
1876				1576		12	120
1500				1 477			
1578				1878			
4"9				1579	704		1,125
1551				1440	30	7	160
1881	155	25	8 4 741	1551	1.5	10	130
1442	176	13	391	1443	1 111	1	8.0
I mmis		103	5331	1553		- 9	20
144	273		370	1554			
1445	150	1	497	1445		7	10
1 music	515	1.1	1.319	15.56	15	i	55
1447	453	45	1,490	1447		ò	20
To'al.	1,785	204	85,095	Total	767	15	81,650
	TO BAITISH	COLUMBIA.			то си:	INA.	
Years.	Gallons.	Cases.	Value.	Years.	Gallons.	Can-s.	Value.
15.5				1875			
1576				1476			
1877				1877	*****		
1578	60	229	\$ 270	1578			
1579	24		36	1879			
1800				1 440			
1881				1881	10	1	9 40
1003		4	28	1 442		11	110
1883	25	415	3 843	1 443		4	40
1244	42	35	298	1 ~~ 1		1	10
1445	137	10	F 251	1 mms	3	2	29
[mm/s	:175	105	1,954	1 446			
1557	87	543	711	1900		2.5	200
Total	1.350	654	86,390	Total	2.43		4120
10611	1,350	0.4	\$0,0541	10081	13	44	\$429
	TO 1	MEXICO.		T	PANAMA AND S	OUTH AMER	ICs.
Years.	Gallons	Cases,	Value.	Years.	Gallons,	Cases.	Value,
1575		10	8 70	1875			
1576	121		272	1576			
1877				1577			
1875	192	39	508	1878			

			* 401.000-			
175		10	8 70	1875		
476	121		27.2	1576		
77				1441		
10	192	32	505	1578	1 111	
479	106	13	250	1579	53	
441	100	67	619	1 mms	135	10
1	151	2	410	1 2 2		
4,452	39%	3:2	821	1552	****	
443	600		35,43	1843		
441	56	6	141	1441	46	30
CH.	117	17	35h)	1243		
n mes	527	61	1 425	1556		50
100	345	11	\$15113	122		
	2.746	43.7.4	~	Total	237	90
rta!	2 10	251	91,502	1000	201	477
	TO HONO	LULU.			TO OTHER (	COUNTRIES
cars.	Gallons.	Cares.	Value.	Years.	Gallons,	Cance.
575				1875	165	
ATAL	11.4			1576		
				1577		
-			*****	1878	6.14	10
479	129	60	\$ 614	1879	1,444	
mm()		297	1,589	1 4441	2.5	17
441	6	167	1.115	[mm]	197	213
44.3	248		429	1552	336	19
27.7		70		1443	25	15
19.1		47.4	4(4)	1881	137	47

\$31,330

				T 4.1
Total	1,861	1,477	812 603	T td
				Total Sea E
	TO EU	ROPE.		Francisc
Years.	Gallons	Cares.	Value.	
1575				Count
15.76				
1577	25		8 75	
1878				
1579				Charles I. America
1550	477	1	1.203	Central America
1851	finit		1,170	Brish Columbu Mexico
1443	2%1	g	401	Honolulu
1453	Ste	-	115	Europe
1854	25		50	Japan .
[ No. 12	534		740	t'h na .
[ major				Panama & South
1247	23,571	145	27,273	Other Countres

1481

26,255

1443			4.0	
Immi	*****	4	40	
mais.	3	1 2	10	
1446	o o	2	29	1
199		2.5	.000	
1		2.5	200	١
Total	13	44	\$429	ľ
TOUR!	13	44	\$479	١,
	TO PANAMA AND SO	OUTH AMES	RICL.	ŀ
Years.	Gallons.	Cases.	Valus,	ľ
1875				1
1576				
1577			** *****	1
1575				-
1579	53		0.1000	
1 4443	135		\$ 106	1
1 22		10	275	
lan!				i
1883	****			4
1441	46	30	392	ľ
1885	* '		9812	2
1 wwi		50	350	1
122			990	3
1				1
Total	237	90	81,126	
10001	201	477.7	81,1211	1
	F . OFFIDE 00			í
	TO OTHER CO	UNTRIES.	1	۰
Years.	Gallons,	C2.000.	Value.	į
1875	165		8 412	
1 % 7/3				ŧ
1577				٩
1975	644	10	1,549	
1879	1.555		1.241	i
1 14.46	2.4	17	225	c
Inn!	197	213	1,262	•
1442	336	19	1906	1
1443	25	15	215	
1441	137	47	151	8
1443	1,312	136	2,164	J
] multi	1,650	145	1,219	4
NYT	1,156	171	3,067	
T-twi	7,562	774	815 741	8

#### otal Sea Exports of Brandy from San Francisco to Foreign Ports by Countries from 1875 to 1877 Inclusive

				Г
	traffons.	(ann)	Value.	ľ
Central America	1,785	204	85,095	ŀ
British Columbia	1.350	65-1	11,3211	L
Mexico	2,"4 <sup>1</sup> i	251	15, 5412	ŀ
Honolula	1,991	1.477	12.603	
Europe	20,255	1.1~	31,330	
Japan .	11111	15	1,650	ı
China .	13	44	4129	П
Panama & South		{m}	1,128	В
Other Countries	7,562	778	15,714	١.
and the same of				ľ
Tota!	12,694	3.719	8~1,1433	1

#### Total Sea Exports of Brandy from San Francisco Io Fareign Ports by Years from 1875 to 1877 Inclusive.

	-	_	
Years.	Gattons.	Canes.	Value.
1575	165	11	8 492
1576	121	12	39/2
1577	25		75
1878	596	71	2,327
1879	2,904	705	6,375
1 ==0	767	3941	4.071
1551	1,577	418	4.916
1445	1,4%0	1	3,0~0
1553	709	6(15)	5,164
1001	579	793	6,460
1445	2,647	216	4, 413
1 44/5	3,927	321	11,7%8
Inn.	26,499	639	36,154
Total	42,696	3,719	851 169

In glancing over the above tables of brandy sea exports to foreign ports, we cannot but note the small amount that has been taken by foreign countries, a little over forty-two thousand gallons, valued at eighty-four thousand dollars, in thirteen years's time; the reason for this is well known to the trade; outside of the relative high price of our brandy even when shipped in bond, that is, by non payment of the internal revenue tax of ninety cents per proof gallon, the brandy is still too dear to welt compete with the cheap imitation brandies sent to all parts of the world in cases and in bulk by Germany, France and England, and though made of grain or corn spirits are sold in those markets as genuine Cognac. This statement is fully corroborated by the reports made by our U. S. Consuls in France and Germany. Besides these fictitions brandies which are so extensively used in M xico, China, Japan, the C utral and South American States and the Sandwich Islands, we have likewise to compete in these markets with the still ch aper domestic spirits of those countries, such as Rum in Central America, Mescal in Mexico and the distillations from Rice in China an ! Japan, etc., etc.

Furthermore all these countries d mand greater or less custom's duties on entries of our brandies, which materially increases their cost and prevents their greater consumption. In British Columbia outside of the custom's duties, we have to control against the English, Scotch and Irish whiskeys and gins and to which the English are all ady accustomed.

The valuation of the Brandy shipped to British Columbia in 1883 seems to be excessive, but the bulk of it may have been some very old Brandy distilled in San Jose, and held at from six to eight dollars per gallon, and twenty to twenty-two dollars per case. This Brandy is usually sold to the Clubs.

In the matter of the brandies exported, those shipped to Central America, British Columbia, Mexico, Honolulu, Japan, Panama and South America, can be reckoned as generally going to the trade. Those to unmentioned countries can be considered as sample lots going partly to the trade and partly to the consumer. That quoted as going to Europe must be taken as merely small sample on trial lots up to 1887 when one Trade lot of about 22,246 gallous were shipp d direct to G-rmany as a venture. I surmise this lot will, when properly aged in the German warehouses, and deftly fixed and put into French Octave barrels. be returned to our country as a nec plus ultra genuine old Cognac brandy, and realize fabulous prices from our ever credulous American dudes.

And it is possible to do this, with certain flavorings as practiced in Europe, and cutting down the natural grape flavor with potatoe or grain spirit, and return the brandy thus disfranchised to the United States with daties paid at less than three dollars and a quarter per gallon. If cleverly done and sold through some well known importer, this brandy could easily be disposed of in the large enstern markets at from eight to ten dollars per gallon if jobbed out in the ordinary course to the trade. The consumer would afterwards most likely pay from twelve to fourteen dollars for it. That this can be done now, with the proper commercial connections abrond and in our country, and that it will be done in the near future is my sincere belief. It is rather sad. however, to think that such methods have to be resorted to to induce the free born American patriot to appreciate the once undefiled production of his own country.

And right here, while speaking of th lack of a general appreciation of our products among our American citizens I desire to draw attention to the great injustice done our viticultural industry by the use of foreign white wines, clarets and Champagaes at public banquets given by public institutions.

While the figures given in this report very clearly show the growing appreciative acknowledgment of the good qualities or our wines, both in the Atlantic States and foreign countries, I confess with reluctance and some shame, that the average Californian citizen has the weakness and bad taste to allow his ignorance in wine matters to be swayed by his prejudice, and instead of purchasing wine for the sake of wine, purchases and sets on his table and before his guests, wine chosen on account of its high price, and peculiarly fashionable foreign name. Such questionable taste in display may be excusable in private life, but when extended to public bauquets on public occasions, by assemblages of men supposed to repesent the interests of the State, such as the Chambers of Commerce, the Boards of Trade, the Fourth of July and National Political Committees, it then becomes a comical paradox, a farce beyond consistency. vulgar even to Shoddyism, and I am sorry to acknowledge that such occurrences take place almost every day in this community

In this free country any man has a right to use, eat and drink what he pleases in private, but when representing a public in\_ terest in a public place, with the public money, or money subscribed or called from the community or the public, then he has the cheapest means of concocting apurious no right to patronize or show a partiality wines and adulterating those that are pure. And these pruned and cultivated according wine taken at the proper time and in moder-

or conntenance a competing foreign product. And I may add that if a consistent public spirit ruled the supposed representative men, political and commercial of this community, as it does those of other communities, Californian wines would have the undisputed post of honor at every public bauquet, whether it be that of the Chamber of Commerce or that of the reception of a body of Honorable Veterau Firemen, without murmur and without cavil. Fortunately the present generation is of but a day and it is to be hoped that their successors will have some public spirit, some local pride.

Among the most important work that should fall within the scope of this Commission is the endeavor to frame some National Law for the protection of pure wine and the detection and prevention of those that are spurious. While the producers are entitled to this encouragement, the consumers, who are much greater in numbers, have a right to demand such protection to their purses as well as to their health. All spurious wines, if they are innocent in their action, should be plainly labell d to indicate their nature, and should be taxed. If not harmless, their manufacture and sale should be prohibited. No matter how cheaply we can produce and sell our wines on this Coast, the additional transportation cost to the Atlantic seaboard will always be great enough to permit a profit to the Eastern compounder. Regarding immediate National Legislation for the protection of the purity of our wines, and regulations for their sale, there is much to be said, but I will briefly state that the Commissioners of this board have long ago carefully considered these points, and communicated the results of their deliberations to our Congressmen and Senators, urging them to use all means in their power to secure some effective law for the protection of pure wines. In response to the urgent and continued appeals of the Commissioners, several bills have been submitted on our behalf by Congressmen McKenna, Morrow, Felton and Thompson, which, if passed, will give our industry great immediate relief. In this matter I may add that the several resolutions pussed in our board and forwarded to our Representatives at Washington, were adopted some two months afterwards by the Wine Growers' and Wine Makers' Association. As this required legislation will be discussed in the Halls of Congress. I will not dwell further upon it, but before dismissing it I would give a timely word of caution to those who ask any reduction either on the tax on distilled spirits or on fruit brandies. I can forsee no greater peril to the advance of wine making in this State than such reductions. The Commissioners, after mature consideration. bringing their practical knowledge to weigh upon the matter in most of its bearings, have wisely concluded that it would be dangerous to our best interests to have the tax on fruit brandy either lessened or removed, except auch as may be necessary for the production and preservation of sweet wines, or for wines destined for export to foreign countries only. And it is to be hoped this judgment will prevail. In the meantime, the Commission should contime their endeavors to maintain a high Internal Revenue Tax on distilled spirits of all kinds, whether they be grain or corn spirit, rum, alcohol, whisky, fruit or grape brandy. It should vigorously oppose any proposed reduction, for in such reduction lies the easier and most effective as well as

With cheap distilled spirits all such imita- to the diff rent, and most approved methods. tions and falsifications are not only possible. but likewise profitable. The most effective of all ways to prevent and put a stop to this nefarious business of adulteration is to make it unprofitable. We should have pure wines for our whule Country, cost what it

Next in importance in the work of the Commission, should be the gathering of reliable facts in detail concerning the requirements and demands of the wine markets of the world. Their requirements in regard to quality as well as quantity; the prices obtainable in each great market; the cost and mode of transportation; the terms and methods of payment.

These facts once obtained should be constantly followed up from season to season, showing any changes taking place; should be kept for reference in the Rooms of the Commission free to the inspection of all interested, and should otherwise be published and made known throughout the State, for the benefit of the whole Viticultural Industry, whether individual or collective. Changes often take place in the larger wine markets, which if known and made use of in time, would prove of the greatest assistance in placing considerable amounts of our wines in a profitable manner, and possibly secure us new and con tinnous markets.

Following these important future labors, comes the necessity of establishing experimental vineyards, properly equipped and maintained in every prominent Viticultural centre of the State, for the sole purpose of ascertaining the adaptability of different vines to raise the best grapes, in the greatest abundance, with the least accidents or disease in the different localities. Fresno County should have one, Sauta Clara County another, Santa Cruz, Los Angeles, El Dorado, Alameda, Napa, Sonoma and other great wine centres should each have their own experimental vineyards. these should be modelled after one pattern. and planted in that kind of soil that is the most extensive in each judividual district. Vines planted in these vineyards that previous preliminary local experimentation had indicated as the more valuable in point of quality, avoidance of danger, accidents or disease, and giving the best monetary returns, yielding a just medium between the high grade and good ordinary wines which have proven the most remunerative in Europe as they will also do here. I look with the greatest solicitude at the efforts made by some of our vine growers who seek only for the highest known quality, regardless of the well-known poor yielding qualities of the vines they plant. It is well enough to experiment in a small way, but to pursue such a course on an extensive scale, is fraught with the greatest danger of failure and ultimate financial roin. What is needed above all considerations with us is good bearers with good quality, for after all the only means of proving a vineyard successful is its satisfactory financial returns. We had better leave the discoveries of the Californian Lafitte's, the Chambertin's, the Johannisberger's and Tokay's to chance or future generations, and for the present content ourselves in securing abandant yields of real good table wines with satisfactory monied returns.

These Experimental Vineyards should consist of not less than five hundred vines each, of such varieties as might be considered the most desirable in each District.

Correct records should be kept for each variety, its general b havior under drought or superabundant moisture, great heat or excessive cold, liability to or freedom from disease of whatever nature it may be.

Observations should be made of that most important of all periods, the flowering of the vine, whether this occurs at the season the strong Spring and Summer winds blow, or at a time when winds are unknown, and all is favorable to nature's effort. The watching for periods when the frost is most likely to occur, and numerous other similar contingencies. Then should follow close observations of the behavior of the vine during the periods of ripening, the first growth of the bunch, the formation of the seed, the swelling of the berry, the coloration of the grape and the final ripening of the whole bunch. Then should come the testing of the saccharine and the comparison of the ripeuing periods in the different varieties. Following this would come the relative vield of the different varieties, and last and most important of all the actual market value of each different kind of grape. I would suggest that all the grapes grown on these different Experimental Vineyards should be sold in the general market and thus test their relative monetary value practically for a number of years. The income so derived would most likely come near paying the current expenses of each Station, when the vinea come into bearing. Owing to possible complications it would be better to dispose of the grapes to the wine makers offering the highest price, than to encumber the station with the wine making, or entering into Laboratory work; rather let the market determine the relative values. These Experimental Viueyards should be under the immediate supervision of the respective Viticultural Commissioners of each District, Of course it is to be supposed that the Goveroor would appoint practical Viticulturists only, and such as are recognized capable of filling so important a position. Such a plan, if carried out, would cause giant strides to be made in every part of our State towards the discovery of the most valuable grape or grapes for each locality.

Valuable determinations might be made in less than ten years, while if left to the present limited resources of this Commission, or private experimentation, done in an unsystematic way, it might take fifty years to attain results that at best could not be complete or authorative.

In continuation of the work of the Commission the further introduction and popularizing of our wines among our own people in our own country.

Now that we have accomplished the planting of numerous and extensive vineyards we are making some progress towards determining the greater value of a few varieties of grapes over others, and have succeeded in making fairly good average wines, we have the next most imporant task before us, that of finding consumers for all we will shortly be producing. The best market must be considered the Home Market. That market is proven the best in every prominent wine making county of the world, and I cannot see why it should not be with ne. The greatest obstacle to our success in this direction is, that the average American is a whisky drinking, water drinking, coffee drinking, tea drinking, and consequently a dyspepsia inviting subject, who does not know either the use or value of pure light

ate quanti ies. The task before us therefore lies in teaching our people how to drink wine, when to drink it and how much of it to drink. This s nous and most important task should be undertaken at once for the benefit of health and the promotion of temperance. The knowledge of the benefits of proper wine drinking, should be herald d by the new-papers, sown broadcast through books, pamp hl is and circulars, proclaim d by lecturers from the rostrum and championed from the pulpit. The knowledge of how to properly make use of most valuable product to man should be made universal, and handed down from father to son in the same manner as family legends are handed down for generations. The people should be taught in the selection of wines for their daily meal, as are best suited to the maintenance of health and bodily vigor, as well as for agreeableness of taste. They should be taught the value of the different kinds of wine as food adjuncts; they should be taught in d tail the simple but very necessary cares needed for the preservation of their household wines and their presentation on their tables in a proper condition and attractive mar. per. Extracts from such books as that written by Dr. Druitt, the eminent physician and viticultural writer, should be free ly circulated throughout the land, and placed within the reach of the masses to learn the use of wine, to beware of its abuse and become the exponents of true temperance. At this stage of our viticultural progress, I consider it more importaut to teach the people the proper use of wine as a daily beverage, than the ext ntion of our viu-yards, or any other viticul tural work that the Commission can enter upon. At this critical moment our future anceess depends upon the immediate popplar increased consumption of our wines, more than greater production, increased quality or any other thing that I can think

And while we are considering the matter of greater consumption and larger markets for our wines, in our own country it may be well to draw attention to the fact that freight rates very greatly influence the possible increase or decrease of our Eastern and interior shipments. Thus, under former stiff rates, our shipments eastward shows a pretty constant appoal increase of 300,000 gallous, from year to year, for nearly ten years. Under the lower rates of 1555, the increase suddenly went up to 700,-350 gallons over the previous year. And in 1886 when cut rates were roling, there was a further increase over that of the year 1885 of 936,000 gallous. It would be well for the Transportation Companies to con sider this fact and devise some means for the transportation at such rates as will permit this industry to develop its magnitude, and increase their own carrying trade, Owing to the distance separating as from our patural markets, we, in California, have much to contend against. The wood from which our shipping casks are made, is brought from the East by rail, and is charged for at so much a pound coming to us empty, and so much a pound going away from us tilled with wine. These additional costs, and they are not moderate, increase the price of wine to the consumer, and tends to prevent its more governd use in the Atlantic and Western States. When our wines, in all their purivalled purity, can be laid down at the door of the Eastern Inborer at the same price to him as beer, this industry will develop beyond our most sanguine expectations, !

Shortly after the organization of the Commission the need of a viticultural library was keenly felt, and as soon as our | Following these as soon as the State Frinfunds permitted the outlay, the proper committee set about collecting all the works obtainable, printed in the English language on vine growing, diseases of the vine, wine making and fermentation. Then all proenrable French works relating to these were added through much labor and some considerable delay. At this time a collection is under way of German, Italian and Spanish works covering the same subjects

At this date our library consists of four hundred and twenty-one volumes and is without doubt the most complete viticultural library in America, and one that our State may well be proud of. The detailed catalogue of these books you will find in the report of the secretary herewith transmitted

As a matter of future reference and the bett r to show you what amount of labor has been accomplished by the Commission in the shape of printed matter, I berewith transmit the fell-wing volumes and paint h lets:

Annual Report of the State Viticultural Report of the Chi f Exoutive Viticultural Board of Commisioners, 1881.

First Annual Report of the Chief Executive Viticultural Officer, 1851.

Insects It jurious to Fruit and Fruit Trees of California.

Anunal Report of the Board of State Viticultural Commissioners, 1882.

First Report of the State Horticultural Commissioners of California, 1882.

Second Annual Report of the Chief Excentive Viticultural Officer-Appendix I -1552, 1583,

Second Annual R port of the Chief Execu-- tive Viticultural Officer-Appendix II 1859 1853

Second Annual Report of the Chief Excentive Viticultural Officer-Appendix III 1882, 1883.

Annual Report of the State Board of Horticulture, 1583.

Report of the Third Annual State Viticulthral Convention, 1884.

Ampelography of California, By Chas A Wetmore, Chief Executive Viticultural Officer, 1884

Viticulture and Viniculture in California from Reports of the Board of State Viticultural Commissioners, 1855.

Report of the Fourth Annual State Viticaltural Couvention, 1886

Report of the Fifth Annual State Viticultural Convention, 1557.

Annual Report, of L. J. Rose, Commissioner for the Los Angeles Viticultural Distriet, 1857.

Annual Report of I. de Turk, Commissioner for the Souoma Viticultural District,

Annual Report of Geo, West, Commission er for the San Josquin Viticultural Diatrict, 1855.

Annual Report of the Chief Executive Viticultural Officer-Oidium (Tuckeri) and the Use of Sulphur, Appendix I-1557.

Annual Report of the Chief Executive Viticultural Officer - " The Pare Wine Bill," Appendix H-1897.

Annual Report of the Chief Executive Vincultural Officer - " Bleaching Seedless Sultana Raisius," Appendix III 1887.

Annual Report of the Chief Executive Viti, cultural Officer - " How to Avoid and Correct Imperfect Fermentation," Appendix IV -- 1557.

Directory of the Grape Growers and Wine Makers of California, containing the 1011 (-

the annual report of the Commission for 1887, which will contain

Report of the Presid at Arpad Haraszthy R port of Commissioner L. J. R se, for the Los Angeles District.

Report of Commissioner I de Turk, for the Sonoma District

Report of Commissioner Geo, West, for the San Joaquin District.

Report of Cormassioner Chas, Krug for the Napa District.

Report of Commiss oner Chas A. Wetmore for the San Francisco District

Report of S er tary of the Boar I of Viticultural Commissioners, which will include sessions of the Board, accounting of exp uditures, property on hand, inclading the catalogue of the library,

Report of the State Analyst on wines, finnings and other materials analyzid. Also the safety of using arsenic remedies against vincy ard | sts.

Officer, including work of the year

Appendix 1-Orlium and the Use of President of California Board of State Viti-Sulph ir

Appendix H-The Pure Wine Bill Ex-

Appendix III - Bleaching of Sultana

Appendix IV-Hew to Avoid and Correct Imperfect F rmentation.

Th n in due course will follow the report of the Sixth Annual State Viticultural Convention, which will contain all the original papers read during the convention. most important discussions there entered into. A complete list of wines submitted for investigation, tog ther with a list of those awarded premiums in classification, and other matters of interest and value.

I regret to state that owing to the insuffi cieut appropriation made the State Printing Office, much of the value of the work of the Commission is lost. It often happens that information comes to this office, which, if printed immediately and sent at once to the vine growers of the State, would be of great value to them, and yet when such chances com about, it was found that the State Printer had oth r work shead or that the appropriation of his office was exhaust ed; the latter h ing most generally the case, We have thus be in continually thrown upon the public spirit and generosity of the newspapers. These, though always willing to accord a c rtain amount of their valuable space, could not give all that we have often required. In the matt r of cugravings and illustrations, the Commission has been made to shift as best it could, for those very great essentials could not be supplied by the State Printer, and yet in viticulture cuts and illustrations are often quite as necessary and valuable as the letter press itself. Some rem ly should be found t overcome these drawlucks, and the first that suggests itself is a very largely increas ed appropriation for the State Printer's Office as well as in ore discretionary latitude accorded to the State Printer himself in th use of the funds of the appropriation. The tariff question is an ther matter of very serious import to the wine and raisin producers of our State and should domand our continual watchfulness. A high tariff on foreign win s has ben them ans of introducing our win a among our own citizens, names and Post Office addresses of extending the area of our vineyards, giving face and hand- with elder flower water.

meanly six the us and Colifornia Vitical- aliving a playment to more than thirty thousands alsof the population of Ca ifornia, increasing its wealth and giving the whole of ter can get them printed, will come the Unit 1 Stat's wine cheap'r than it e ild lave ev r b n had from foreign country's without such prit dico beriff. It is int rnal competition, that strong regulator of labor, wages and enterprise within recentry that has made wines so cheap with us that the peacest working in the land no longer looks upon it as a fuxnry and need not be without it. Such results could never have been brought about except by a protective tariff. In fact, our large plantings and the larg ly increased consumption of our win's began only after the turiff was mised, and to-day the result shows that the consum r is the one that has profitted most by the change. A reduction if tariff on any article competing with American industry, whether it be wine, raisius, wool, silk or sugar, or anything else, bear it well in mind, is a blow struck at us, at our judustry, at our homes, If we want protection for ourselves, then we should uphold every brauch of American industry that we can one prage with our voices and protect with our votes.

> Respectful y, ARPAD HARASZTHY

cultural Commission rs.

#### MR. T. HARDY'S VINEYARDS.

The Adelaide, N S. W. Obser er says: The viutage at Barkside having been brought to a close on April 2), the boys and girls engaged in grape gathering and raisin drying, about fifty in number, had their usual treat on Saturday, 21st, at the Grange, wher they thoroughly enjoyed themselves. The season's results may be here stated as very sitisfactory. The wenther throughout the vintag has been all that could be desired. The yilld has been quite double that of last year in many of the vineyards purchased by Mr. Hardy, and the grapes well ripened and generally very fine in the berry. Owing to the continued dry weather the Shiraz at Bankside developed and extraordinary richness in saccharine, having gone as high as 1140 sp. gr. during the last fortnight. At Tintars ov r 10,000 gallons of well-fermented dry win - have been made under the supervision of Mr. R. B. Hardy, being an increase of 10,000 over any former vintag . At Maclar n Vale about an equal quantity has been made nuder the management of Mr. J. G. Kelly, and at both places the aim has been mad, to produce a wine suitable for the English market. At Morphett Vale about 10,000 gallons have been made from grapes purchased from the small growers in that neighborhood, and at Woodside and Langhorne's Creek 13,000 gallons. At all the places the total will reach 140,000 ga lons, being a larg advance on any pr vious vintage. The season has been a most successful one for raisin making, the Muscat I grape being very fine, and the color and quality of the finish d raisins are sup rior to anything yet turn d out, The current crop was uly a mid rate oue, the grap not having s t well, most probably owing to cold w other during the bl 4soming of the vine, also from loss of fruit destr ved by the sparr ws. The almoud er ip is very short from the same cause and the olive crop small c pur I with the henvy vield of tast year.

WELL TO KNOW M squitoes, flies and knats may be kept away by sp nging the

## VINTAGE AND VINIFICATION.

#### Time of Vintage.

When the grapes are ripe they have to be collected in a clean and judicious manner, and to be transformed into wice without any unnecessary delay. White grapes are crushed and pressed; the juice, freed from stalks and husks, is put into clean barrels, and allowed to ferment in a cellur or other temperate place. Black grapes which are to yield red wine are crushed, put into vats. juice, husks and all, and allowed to ferment un il the wine is completed, and has extracted the coloring matter. The wine is then drawn off, the murk pressed, and the united products put into barrels. While the principles of the most common methods of vinification are thus easily stated, the details to be noted are so numerous, owing to the variations determined by different vines, customs, and countries, that we must state them in the chapters treating of the viticulture of each emopoetic district.

The first condition of the vintage is, that the grapes should be ripe. In many parts of the south of Europe it is considered that the grapes are ripe when they have attained their greatest volume. They are then vintaged; but their must being quite unnit for the production of natural wine, has to be plastered, and, after partial fermentation, to be mixed with spirit. It is thus clear that the time of the greatest volume of the grapes is not the one most suitable for the vintage, if the object of the viticulturist be to produce natural winea. In the most celebrated vineyards for the production of white wine, the grapes are allowed to hang until they attain the maximum of sweetness and maturity, and are commencing to decay or to pass into the state of sweet-rot. Thus in the Sauterne district, the best berries of every bunch are cut out at intervals and carried to the press; and an entire harvest of a vineyard consists of several up to eleven separate gatherings of all that has attained the bighest state of ripeness. In the finest situations of the Rhiuegan, the grapes are not collected until the rains or frosts of the latest autumn necessitate the vintage. At Vouvray as at Tokay, the best wines are made from the grapes which have been the longest on the vine, and collected the greatest amount of sugar. But the experience gained in the production of white wines is rarely applied to the white ones; for with them the production of a certain color is a dominant condition. The color required by the trade can only be obtained from grapes as a certain stage of maturity, and that stage does not coincide with the maximum ma, turity which the grapes can attain on the vine. Consequently, the highest quality of the wine is abandoned in favor of a conventional dye; and the unripe wine has to remain years in barrels and bottles before it acquires the qualities which fit it for use. The Champagne grapes, on the other hand, are not permitted to attain the stage of highest maturity, because it is conventional that the effervescent wives of that country shall be as pale as possible, and not have the slightest tint of redness. But whereas fully ripe Pineau always yields a slightly reddish, rosy, or partridge-eye colored jaice, however carefully and quickly it may be pressed, this stage of fullest ripeness is not awaited in the Champagne, and the grapes are gathered at the time of their greatest volume: and whereas fully ripe Pineau, when fermented with the haska, Pineau, when fermented with the huska, artificial grape-sugar, or starch-augar, or yields wine which has a somewhat tawny glucose be used. We have tried a variety

red color, and not the lively dark red of eld rherry juice, the wines of Burgundy are. with few exceptions, vintaged at the time

when the grapes produce the despest color. Those therefore who would produce good wine should allow their grapes to hang on the vine as long as is compatible with the safety of the barvest. From time to time samples of grapes should be collected from the vineyard the herries should be mashed. pressed in a little hand-press, and the juice obtained subjected to examination, particularly as regards the amount of sugar and acid present in it. The sugar can be easily ascertained by the use of a so-called glucometer or spindle of glass, such as is used for ascertaining specific gravities in general. The scale of the glucometer should be so divided as to indicate per cents, of fruit sugar directly, and not imaginary degrees arbitrarily fixed by inventors. But any gravimeter indicating specific gravities can be used to ascertain the density of a must, and from that the amount of fruit-sugar contained in it can easily be calculated. Some convenient French glucometers are so arranged as to indicate by one degree of their scale a quantity of fruit-sugar which after fermentation would yield a volume per cent, of the must of absolute alcohol. that is, about 1500 grms, of sugar per hectolitre of must. When the sugar is calculated from the specific gravity found absolutely, the total solids found must not be taken for sngar only, but from one-tenth to one-fifteenth has to be deducted as being other matters than sugar. The sugar can be determined absolutely by the chemical and optical methods of saccharometry described in a subsequent chapter. Must which would yield from 6 to 8 per cent. of alcobol will give only "small wine," and grapes showing this quality of must should not be barvested. When the samples of must produced show above 8 per cent. of future alcohol, the vintage may be contemplated. But it should never be actually undertaken as long as by repeated trials any increase in the quantity of sugar in the grapes is observable. Even when the augar has attained its maximum, and remains stationary, it is not on that account necessary to proceed to gather the grapes, as, if the season be favorable, they will still undergo beneficial changes by banging upon the vine. In the north and centre of France must will seldon show more than 15°, but in the hottest regions of the south. in parts of Spain, Italy, Cyprus, Madeira, must is produced which shows up to 24°, i. e. degrees of the French glucometer. Of course this sugar can never be entirely transformed into alcohol, as the action of fermentation ceases in any fluid containing above 16 per cent. of alcohor. The excess therefore remains a sugar, as in the liquorons wines of Lunel, and the sweet Santernes, which are now taking the place of Lunel. If it is not intended to produce soch syrupy wines, the must produced can be reduced by the addition of water to 15° or even 12°, and will then ferment completely and produce dry wines of the best This dilution of a heavy must character. is preferable to the harvesting at the time when the trial juice shows from 12° to 15° If, on the other band, a must coming from good vines in au unfavorable year shows but 8° of fature alcohol, it may advantageously receive an addition of pure cane-sugar up to 12°, every degree requiring an addition of 1500 grammes of cane-sugar to each bectolitre of must. In no cuse should

of the best and whitest samples which can be procured, and find that they all impart a nasty taste to the fermented product. When the viticulturist has decided all the questions raised by these considerations, and made his preparations accordingly, he should proceed to the actual vintage.

MODES OF VINTAGE.

The most common mode of viutaging consists in catting off all grapes and carrythem to the press. For this mechanical operation no particular intelligence on the part of the laborers, and no instructions on the part of the viticulturists, are required. Men, young and old, women, and children. may be employed. Each laborer is put to a separate row of vines, and told to pregress to the end of the row. All laborers are required to remain in line, so that the work is equally distributed. They cut the bunches off the vines with scissors or knives, and place them in little baskets. Every full basket is replaced by an empty one, and emptied immediately by the collector, who thus attends to the wants of from four to aix laborers. The grapes are best placed into suitable vessels of the capacity of au hectolitre, so that the vintage is immediately measured and the amount of work done ascertained. A butt of the capacity of an hectolitre will hold 50 kilos of grapes, and with its own weight of 10 to 15 kilos can be lifted and carried by a single man.

The master vintner superintends the entire process. If there is a sufficient number of hectolitra vessels, they are placed side by aide on the wagon and carted to the press. If this is not the case the bectolitres being counted and noted down, the contents are poured into a large vat, which is in atttendance on a wagon on the carriage-road of the vineyard. The vintagers may be taught to cut out of every bunch all unripe, corroded, or spoiled berries, and put them into a separate little basket. But is preferable to entrust this work of clearing the bunches to particularly instructed laborers located at the place of collection of hectolitre recipients. They should have a table, each sufficient to take the contents of a receiver, and with a pair of scissors should remove all bad parts, and all long stalks and tendrils. They should then separate the good from the bad, and allow the former only to go to the main vat on the wagons The berries which have been ranged out may, after separation from the worst ingredients, be used for the production of a cheap common beverage A careful vintage laborer can harvest 125 kilos of grapes per day, which will measure 21/2 hectolitres, and produce nearly 1 hectolitre of wine. Five vintagers require one porter, and four such gangs require a superintendent. Such a staff of twentyfive viutagers will clear balf a hectare of vineyard per day, and thus collect 50 hectolitres, or 2,500 kilos of grapes, producing 20 hectolitres of wine. The wagon carrying the harvest is best drawn by a horse. and attended by a wagoner and an assist Wherever the quantity of grapes is smaller, or the roads are not accessible to a drawn wagon, the harvest has to be carried on the backs of men or animals. But this mode of transport is also elected in places where it is intended to bring the grapes as perfect as possible into the press-house, as in the Champagne. Indeed, we believe that in that district the barvests, even of the largest properties, are all carried in panniers on the backs of mules and donkeys. (To be continued.)

EASTERN WINE GRAPES.

Mr. High's experience with "various wine grapes," proves that we can learn the merits or demorits of a vine only by trying it in various climates. A variety of grape apparently worthless in one region may be valuable in another to which it is adapted.

Mr. High commends the Catawba. Here in Vineland I planted ten years ago 300 Catawl as. I have taken care of them, and now have but two of them left alive, and never succeeded in maturing a cluster of Catawba grapes.

In New York State the Concord is quoted as a hardy grape. It used to be so in New Jersey, but now (in Vineland at least) it is worthless; totally destroyed by mildew and black rot. Mr. High commends the Bacchus. I have discarded it as no good.

The Ives, for health and general reliability has almost a natural reputation; yet in certain localities in Vincland I have seen the Ives totally runined by mildew and rot.

A grape may rot one year and not rot the next. I tried the Noab, and some years ago it rotted and mildewed so that I was tempted to dig it up. But, last year, when black rot was more destructive than usual, causing a total loss of the Concords, the Noah was a model of health and fruition in both leaf and cluster.

For twelve years the Ironclad grape has given me annual crops of good fruit, yielding from twenty to one hundred pounds per

To test it severely, I planted a vineyard of Concord and Ironclad, the two sorts being set alternately along the rows. Last September it was interesting to see these two varieties, with vines interlacing along the trellis, Concord all rotted, Ironclad crowded with sound and healthy clusters. Yet it seems that with Mr. High the Ironclad " mildewed and rotted badly as any."

For me, I regard it (as J. Sacksteder of Indiana says of it) "more valuable than all the Labruscas of the whole country." I have set twenty thousand vines of it this spring, and contracted all of the Ironclad grape juice I can make at \$1.50 per gallon

It may seem atrange to Mr. High that I have taken out Worden and Niagara to make room for the Ironclad .-- A. W. Pearson, Vineland, N. J., in Orchard and Garden.

#### A GERMAN WINE CIRCULAR.

The following letter from a German wine exporter is being circulated among wine merchants and others in India, Ceylon and other parts of the East, and perhaps in Europe also:-"Your esteemed firm being mentioned to us as importing large shipments of cheap champagne or sparkling hock, we heg to address directly our offers to yon. We can highly recommend our cheapest quality at 12s 6d, net cash per dozen quarts (Samur bottles, which are smaller, can be delivered with a little reduction), packing included, c. i. f., Rotterdam or Autwerp, which is sold chiefly in your market. We beg to observe, moraover, that you can have this wine made up with any brand you wisb. We shall be pleased if you will feel inclined to make a trial, and remain, dear Sir, yours truly, P.S. -If you require some other goods which you know to be of German origin, we are at your disposal." Thus, a quart bottle of champagne, "with any brand you wish," carriage, insurance and freight paid, is offered for 1s 01/2d, while the usual retail price in the East of champagne is five and six rupees or 21/4 to 3 dols per quart.

#### ORIENTAL WINE MAKING

[Continued from page 57]

Mollah Hassan looked the vineyard over critically, and finally s lected a vari ty known as reich-i-baba, a grape of deliciona flavor and extroardinary size. In parts of the vineyard where the vines had been freely irrigated reich-i-baba grapes were plucked and handed to us by the vintager. fully two inches long, one grape making a very big mouthful. Hassan, however, shook his turbaned head knowingly at these, and made his way over to a corner of the vineyard where the irrigating water had hardly been applied at all. Here the reich-i-babas were smaller, but where the ground had been kept the dryest and the grapes grew less plump and shiny, there Hasson staked off our purchase make good wine," he explained, "grape vines should never be irrigated; they get all the moisture needed from the spring rains; at any rate, there should be no irrigation after May." The grapes would be in prime condition in about ten days, Has san said, and after stipulating with the vintager for plucking and packing them in lodahs, we rode back to Teheran. The next day big jars were thoroughly scoured ont with warm water, Hassan being on hand to oversee the job. He would sit on a mat smoking the kalian and watching the operation, every now and then going out to stick his head into a jar and smell and give furthers orders. At length his critical nostrils were satisfied, and the jars were placed in full blaze of the sun to air and dry. In accordance with Hassan's orders they were left to bake in the sun until a day or so before commencing operation on the grapes. At night pieces of carpet were placed over the months. In the meantime Hassan had duly inspected the cellar, had it swept ont clean, and any possible suggestion of moisture driven out with a charcoal fire. There was no moisture anyhow, but Hassan said this was a very important point, and so he insisted on the charcoal fire.

On the day before the grapes were to come in Hassau put in his appearance, as usual, after chota hazari. The jars had been moved into the cellar the previous day. Soon after his arrival his gholam arrived with a big round cake of sweet mutton tallow. Hassan then sent him to the cook to borrow a copper kettle. After smelling of the kettle and ordering it to be heated on the fire, he placed the tallow therein and had it heated to the boiling pitch. While it was like boiling oil he carried it down the cellar, and with a little whitewash brush, spread a thin film of tallow over the inside of the jars. Having finished this to his sa isfaction, he pronounced everything ready. Cloths had been spread on the cellar floor, and a couple of bassens, or flat earthen ware pans, provided. Next day came the grapes, about a thousand pounds. They were esrefully sorted over, all unripe or bad grapes being cast aside and spread out on the cloths in the cellar. Hassan's gholam now appeared upon the scene with a couple of ragged Jews. In Persia, Jews are always employed to perform any menial task that is regarded among the Mohamm dans as disceputable. No Mohammedan would engage in treading out wine except he was certain of never being found out. The two barefooted Jews were made to wash and dry their feet, and then get into the hasacens. With their tronsers rolled up above the knee, they trod the grapes as other wine journal on the Pacific Coast

assistants threw them in This treading was kept up all day, Hassan sitting watchfully by to see that the work was thoroughly done. As each panful was finished it was dumped into a jur, stalks and everything.

When the jars were about full they were covered over with a cloth, the door of the collar fastened, and the Jews told to come back on the bird day. Hassan himself, however, came round on the following day. his gholam carrying a thing like a dasher of an apright charn. With this he thorough ly mix d up the substance in the jurs, which alrea ty showed signs of ferm utation. On the third day the skins and the stalks were found in a compact cake on the surface. Hassan put his hand to the jar about half way down, and with a smile of approval bade me do the same. The jar was quite wurm, showing that the fermenta tion was progressing properly. With the dasher the dews plunged the collected cakes down into the wine again and thoroughly churned and stirred the mass about. The fermenting mass hissed and bubbled, and Mollah Aghs Hassan winked a knowing wink and stroked his beard. Several times during the day Hassan marched the Jews into the cellar and repeated the stirring-up process. Two days later Hassan appeared, with an affair very like a small besom This he now used instead of the dasher. and in a different manner. The besom was thrust down to the bulgs of the jars and swept round and round for ten or fifteen minutes, keeping the liquor in a swift eddy. In a few days Hassan called again. and ordered the floating skins and stalks to be removed. Every two days this process was repeated, and in about three weeks fermentation had ceased. On the twentyfourth day Hassan declared the wine ready for straining. It was strained through a canvas bag and stored away in carboys, Some for immediate use was bottled off into native bottles called baggallis. These baggaliis are that thasks of glass, blown thinner than an egg shell. When empty the merest hip of the hoger bail will shive one, but when full they stand a good deal of knocking about. The baggali holds about a pint and a half. N----'s brew cost him about a half keran, or ten cents, a baggali.

The wine was drinkable as soon as made, but although light to the taste it was fear fully deceptive. One glass would find the whereabouts of a person's head; three glasses would lay out anybody but an old

In Hamakan the people, instead of racking the wine off into earboys, keep it in the big jars. These are half buried in the ground out-doors, and in the winter are covered over by heaps of horse manure to keep the wine from freezing. Well made Persian wine does not need to be kept airtight. The Persians merely tie a cloth or a wad of cotton over the month of the car

MARINE TELEPHONY .- Telephonic communication can be carried on between ships at sea by means of a sound producing apparatus attached to each vessel, to be work ed under the surface of the water. Each vessel also has a sound receiving apparatus to take signals. Intel igible signals could be produced by this apparatus, which would be transmitted through the water in all directions with considerable velocity.

The MERCHANT is the only recognized

#### CALIFORNIA RAISINS

A Few Figures that will Prove Inter esting to one Reader.

The Pacific Coast says: California is now growing the fivest raisins in the world and will soon stop imported fruits. Over 500. 000 box's were made in the State during 1887. The packing season of 1888 is esti mated at over 1,500,000 boxes. The s ason begins about August 20th, and the proc sa of curing is very sim le. As soon as the grapes have ripened, the clusters are cut from the vines and p aced on wood n trayor boards, where they are left undisturbed for two weeks to be dried by the heat of the son and the warmth of the earth, then they ar turned and I ft for another two weeks when they are sufficiently cured and ready for the sweating process. At this point, they are carefully taken from the boards and plac d in boxes of 50 lbs, each, and placed in a close building where they will remain for about two weeks, and are th n ready for packing. In drying, the stems become brittle, some grapes are too dry. some not dry enough, out the sweating process equalizes all this.

The White Muscat, of Alexandria, is the variety principally used for raisin purposes. The seedless Soltana is being planted and is a good though small variety. Planting is done between January and April, cutting being preferred to rooted vines. Cuttings are worth \$5 per 1,000, rooted vines are \$20 per 1,000. In making selection for vineyards, the low damp lands should be avoided, as the grapes wit not ripen early enough to enable them to be dried before the wet season begins.

ESTIMATE EXPENSES OF 10 ACRES OF BAISIN

GRAPES.	
Cost of 10 acres at \$50 per acre	500,00
Planting and Harrnwing of \$2 60	25.00
5,000 Cuttings at \$500 for 1,000 planted	
S to 10 feet	25,00
Planting of \$2 00 per scre	20,00
Care of vineyard first year	75.00
Uare of vineyard second year	100.00
Care of sineyard third year	110,00
	12500
Care of vineyard fifth year	125,00
Ficking and Curing Crops of 2d, 3d, 4th, 5th	
years, 30 tons at \$15 per ton	450.00
Total Coul.	553.00

#### SECRIPTS.

Second year 3 tons sold in aweat box at 5	
cents per pound	\$200.00
Third year to took sold in sweat box at 5	
cents per pound	600,00
Fourth year H tony sold in sweat box at 5	
cents per pound	1,000
Fifth year 12 tons sold in sweat box at 5	
cents per pound	1200,00
Value of 10 acres fifth year at \$250 per acre	2500.00

\$5,500.00 Total amount expended.... 83,945.00 Profit on labor for 5 years

'Many instances could be mentioned where the profits of vineyards every year are from \$150 to \$200 per acre, but this is the result of experience and good management. As it is the purpose of this article to present only such facts as will show the yield of an average vineyard, these special cases are not made the basis of calculation."

### GRAPE VINE MILDERS.

There are two kinds of mild w that injuriously effect the grape vines of this coun try some varieties more than others-and some seasons, particularly wet ones, more than in those that are dry or only of average dampness and humidity.

These two varieties of fungus leaf pest are the American mildew perenspore viticola and the European mildew ordium The very important and easily distinguishable difference between these two vineyard scourges, is that the American variety appears on the lower side of the leaf, and

penetrates its entire tish who the European attacks the upper side for the eaf

The Am rican mill w, which w ms much the most common on this ail of the Atlantic, first pr sents its lf, acc rling t the best authorities, in the firm f spits r. s mbling a small are implation if powdered sugar, a the and rearrisce f the ! f, hat impere ptilly the spots ext all and j a until they cover a larger pertion of the utire lower face of th f liage. Later -till, the centers of attack dry up and tak the 4 r of brown or dead leav a midew 1; above le ed, dried-up leaves ar, o't u c af und d with or taken for "sun-se 11." but on c " er observation mid w can easily be distuguished ir m sun scall In the eff et el the latter, there is no whit powl ry mushroom vegetation visible on the l w r fic of the leaf. Mid w mostly attacks the fo'rage, sometimes also the young green st ms, rarely the small young, and nev r the full grown, ripening berri s.

The European mid w first appears (n the upper surface of the vin-leaves, and bears its fewer spores on smaller, not much branched, stem ets; it destreys the vitality of the leaves, and with it the crop, just as our mildew does. Its r sting spores are nakaawa and with its life-history we are not so well acquainted, but we known that salphur sprinkled over the leaves will destroy it; while it fails wh in applied to the American. A note ! French scientist -uggested as a remedy for the American mildew, a mixture of powd red su phate of ir a, copperes, 4lbs ), with plaster of Paris, gypsam (20 lbs , which, acc rdi g to reparts, was app i I with marked success. Remedies of this kind must be used very cautionaly; and until their efficiency and proper mode of appliance are well established, our grape grow is will do best to sel t those varieties which are generally I ss liable to this and the Eur pean form of the disease, of the Labrasca type, such as Concord, Hartford, etc., and their hybrils, such as are generally cultivated in the K oka

As in all other cases, and ounce of trevention is, in this, worth more than pounds of cure; and the true policy is to avoid setting vineyards on low, wet or soggy sails, or where water stagnates, and always make sure of the most exempt varieties, good fertilization, thorough cultivati n, proper pruning and training, and the thin ing of fruit, in young vineyards, to what they can safely bear. A practical and experienced grape culturist says: "If these vitally important points are disregarled, even the healthiest and most vigoreus vari tus of vines will become diseas d.

### A BUSBAND WANTED

In a box of apricots packed by a young woman in San J se, Cal., J seith Hahn of 222 Washington street, N w Y rk, f und the following letter

"If this should meate the ey of some good-looking young man that would like to get marred, just c me out here in Callernis. Lot I good lokin girls here, and wants to get marred (I for on , but must be under 30 years years old and of good habits. Send your pictire and I will sen! mine, and d n't think the girls in Calif rnia don,t realize they are just as g 1 to work as the cirls thair, and the Calif rais girls are the best in the market. Y u can address A. B. C., San Jose, Colif. Excuse bad writing, for I am writing on a fruit box and the boss is watching me Ta ta "

#### THE VINE AND ITS FRUIT.

(Continued from page 55.)

In continuation of the subject in the Vineyardist, Dr. McCarthy says: Among these early vineyardists, it was very well understood that grape culture should, iu the main, be a business in itself. long ago as in the time of this, it was made a rule and put into writing: "Thou shalt uot sow thy vineyard with divers seeds: lest the fruit of thy seed which thou hast sown, and the fruit of thy vineyard be de-In other words, attend to your grapes with care-devote your energies to them-do not spoil your vines by cumbering your ground with too many different productions. Is not that good advice even yet? About the only thing that ever grew in the vinevards besides the vine was the fig tree. These were often planted in corners by themselves, and hence are frequently spoken of as accompanying the vine. "And Judah and Israel dwelt safely, every man under his vine and under his fig teee, from Dan even to Beersheba, all the days of Solomon "

We hear even now of grape thieves along our lakes. They had the same trouble three thousand years ago, and to guard against such lawless depredations, law was laid down to cover the ease: "When thou cometh into thy neighbor's vineyard, then thou mayest eat grapes, thy fill at thine own pleasure; but thou shalt not put any in thy vessel." If, in other words, a good vineyardist is kind enough to let you have your "fill" at his expense, do not be mean enough to fill your basket also and carry that away with you. If you do it in his presence it will be "piggish"-if in his absence, theft.

Every once in awhile some of our vinevards are damaged by hail. The same was true in aucient times. David says: "He destroyed their vines with hail and their sycamore trees with frost." And furthermore, these ancient vineyardists were troubled with foxes, jackals and wild boars, This is referred to in one place where the question is asked, "Why hast thou then broken down her hedges, so that all they which pass by the way do pluck her? The boar out of the wood doth waste it, and the wild beast of the field doth devourit," This is an instance in which the church is spoken of under the figure of a vineyard. So they built walls, and set hedges around their vineyards to protect them, and also built towers at convenient points, from the summits of which they might be watched. In the days of Balaam the wall was common, "But the angel of the Lord stood in a path of the vineyards, a wall being on this side, and a wall on that side," And in Christ's time, he alluded to the prevalent custom of building walls, setting hedges, erecting towers for observation, as well as having wine presses in them. "Hear another parable: There was a certain house-holder, who planted a vineyard, and hedged it round about, and digged a winepress in it, and built a tower, and let it out to husbandmen, and went into a far country."

The prophet, Ezekiel, who lived six hundred years before Christ, under the figure of a vine plucked up and wasted, reveals the coming desolation of Jerusalem, and at the same time, shows us incidentally the ancient mode of "staking and wlring" their vines. He says: "And she had atrong rods for the scepters of them that bear rule, and her stature was exalted among the thick branches, and she ap-

her branches. But she was plucked up in s fary, she was cast down to the ground, and the east wind dried up her fruit: her strong rods were broken and withered; the fire consumed them.

Dr. Smith says that the ancient Hebrews probably allowed the vines to grow trailing on the ground or upon supports. This latter mode of cultivation is that to which Ezckiel alludes when he says "her strong rods were broken and withered " Dr. Robinson, who studied in Palestine, describes how be saw them trained; "They are planted singly in rows eight or ten feet apart, in each direction. The stalk is suffered to grow up large, to the height of six or eight feet, and is then fastened in a sloping position to a strong stake, and the shoots suffered to grow and extend from one plant to another, forming a line of festoons. Sometimes two rows are made to slant toward each other, and thus form by their shoots a sort of arch. These shoots are pruned away in Autumn."

Palestine has always been a land of vineyards, where the vina was extensively cultivated, and where it grew to great abundance. When the spies were sent forth to view the country, preparatory to its possession by the Israelites, we are told that "they came unto the brook of Esebol, and cut down from thence a branch with one cluster of grapes, and they bare it between two upon a staff; and they brought of the pomegranates, and of the figs." Eschol means "the current of the cluster." They came to a magnificent vineyard, through which a stream of water flowed. "The place was called the brook Eschol, because of the cluster of grapes which the children of Israel cut down from thence," That cluster was borne "between two upon a staff." not because of its weight, but so as not to crush the fruit. The same thing is often seen in Palestine at this day, when men carry clusters at times weighing a dozen pounds, the berries being as large as plums. The vine in Palestine not only produces luscious grapes, but they grow to great size, attaining at times a foot and a half in diameter, and a height of thirty feet

To these same vineyards does the prophet Isaiah allude as the land is over-run by its enemics, and the delightful places are laid waste-"For the fields of Heshbon languish and the vine of Sibmah; the lords of the heathen have broken down the principal plants thereof, they are come even unto Jazer, they wandered through the wilder ness; her branches are stretched out, they are gone over the sea. Therefore, I will bewail with the weeping of Jazer, the vine of Sibmah: I will water thee with my tears, for thy summer fruits and for thy harvest is fallen."

Dean Stanley thus speaks of some of the vineyards he saw there near Bethlehem in modern times: "Here more than elsewhere in Palestine are to be seen on the sides of the hills the vineyards, marked by their watch towers and walls, sented on their aucient terraces, the carliest and latest symbol of Judah. The elevation of the hills and table-lands of Judah is the true climate of the vine." "He bound his foal to the vine and his ass's colt to the choice vine; he washed his garments in wine and his clothes in the blood of grapes,"-Jacob's prophecy of Christ, his death being symbolized by the blood of grapes.

peared in her height with the multitude of Judea was almost universal. In the 15th chapter of John, it is also beautifully unade use of for the purpose of showing man's relation to God. "I am the true vine, and my father is the husbandmen. Every branch in me that beareth not fruit he taketh away, and every branch that beareth fruit, he purgeth it that it may bring forth more fruit.'

> "He pruneth it that it may yield large and better fruit-that is what it teaches. Every vinevardist understands what that means, The burning up of the waste brauches after the pruning is also alluded to: "If a man abide not in me, he is cast forth as a branch, and is withered; and men gather them, and cast them iuto the fire, and hey are burned."

(To be continued.)

#### HINTS TO GRAPE GROWERS.

During the mouth of May, just ended, there was considerable rainfall in many parts of the State, particularly in the Pi-d mout and Alpine regious, where the peopl are making note-worthy progress in grape culture. This kind of weather, if it con tipnes well into or through the month of June, betokens bad things for the graps crop. So far, the temperature has not been sufficiently hot, as a rule, to develop the spores or seeds of the fungi which cause grapes to rot. Hot weather is almost surto prevail in June, and if frequent rains accompany such hot weather, the conditions are favorable to the growth of the fungus, and it is apt to show itself, and do an untold amount of damage. Some preventives "for black rot" have been tried, however, which bave given very satisfactory results to vineyardists, North and South. One of these preventives is bagging the grapes by enclosing each bauch in a paper sack, and the other is sheltering the vines from the rain. Bagging is easily and rapidly done after a little experience, and is not costly. Paper sacks can be purebased frem dealers at the North at about 75 cents per 1,000probably less. Pins of the cheapest kind will auswer the purpose, costing about two cents, or less, per full paper. Open the mouth of the sack with the flugers, blow into it as the store clerks do, and it is inflated so as to remain open until it is slipped upward over the bunch of grapes. After this is done, gather the topmost part of the sack with the hand and fold it over the cane or vine from which the cluster hangs, holding it with the left hand while with the right hand insert a pin through and back again, thus securing the sack firmly in this position, leaving no opening to catch rain water. Care should be taken to leave plenty of room in the lower end of the sack for the lengthening out of the bunch of O Heshbon and Elealeh: for the shouting grapes as it grows. To this end leave several inches of space, while at the upper end leave the sack full and without folds. The lower corners, or at least one corner of the sack, should be elipped with the scissors, so as to prevent the possible accumulation of rain water in the sack, which would ruin the fruit. The work should be done now, while the berries are small and before the fungus spores have already attached themselves to the fruit. If done in time the grapes will be saved from the ravages of fungi, birds and insects, though the bunches so enclosed will ripen a week or so later on account of it. The reason of the process is clear when we consider the way in which the fungus disease is spread from vine to viue and from vineyard to In the days of Christ, the vine culture of vineyard. From the observations of micro- Journal.

acopists who have made these things a careful study, it can no longer be disputed that the cause of the rot is a vegetable fungus-a real vegetable plant which grows upon the vine and its parts as the mistletoe grows upon larger trees-and that it hears seeds that float about in the air as dust taking root on leaf or fruit wherever they may stick by contact. The first bagging of grapes was done in the light of this idea, and was tried as an invention to mechanically prevent the contact of the fruit with the "disease." It has so far proved a success, and an only remedy, since sheltering the vines is too expensive for profitable grape growing. Bagging has proved quite successful in Greenville and other places in South Carolina, and is not to be regarded as a fanciful theory. It is as practical as mything else in agriculture. If we could keep the seeds of weeds and grass from the soil we would not have weeds or grass to contend with in the cultivation of our crops, So with the seeds of the fungus which sauses our grapes to rot. If we keep them rom contact with the fruit we prevent the We have heard of an instance in ot. which bagging fail d to prevent it, but, iu he face of the universal success of the nethod in the largest grape growing secions of the country, we are obliged to beieve that in that instance, or in any such instance, the bagging was done too late or too carelessly. The spores of the fungus tre produced under conditions of the combined heat of summer and moisture-continned wet weather. These two things are necessary to its fecundity and spreading.

Sheltering the vines by placing some sort of cheap roof over them can, of course, be practiced upon a few vines for the table supply, and never fails of the best results, The reason of this method is also clear: the necessary water on the vines is prevented, and without the presence of this water, though the spores or seeds of the fungus be on the vines, they cannot germinate and cause rot.

#### HOW PROHIBITION WORKS.

A scene in a Portland saloon is thus described by a writer in the Portland Exchange: The bookkeeper was bringing forth beer from a hole in the wall back of the counter. Suddenly a watcher rushed in and cried: "Here dey cum!" Presto, change! In an instant the hole in the wall was covered with a picture of "Washington Crossing the Delaware." Glasses were thrown down a trap door into the cellar. and when the deputies enter, the smiling clerk is busily engaged in selling eigars.

In another saloon, the reporter found an innocent-looking sink. No one would think for an instant that anything besides a harmless Sebago ever came from the faucet. A workman with a dinner-pail in his hand, came into the saloon. He walked up to the bar, and laying down his pail, requested the bartender to fill it. The dispenser of liquor walked to that identical sink, and filled the pail with foaming beer from that

There is a liquor shop in Portland, where the enstomer sees only a cigar-counter, and no person in charge of it, when he enters. At the end of the room is a plank partition with a hole about six inches square in it, and a small peep-hole about a foot above. The customer walks to the hole, calls for his liquor, lays down his money on a shelf beneath the aperture. A hand takes the money and sets out the drink. The hand is all the customer sees .- Lewiston, (Me.)

#### NO PREE THADE WANTED

### alsın Growers call on Senator Stewart for Help

The following petition is being circulated mong the raisin man of this county, and being generally signed. It is sufficiently tplicit in all its terms to be easily underood, and is considered by many to be an uportant move politically, which will sve great bearing on the coming comnign.

Hon, William M. St wart, Senator from evada-DEAR Sta: In the failure of any illing or competent representative of our wn state to lift a voice in our b half, we ne misin grawers of Fresno county, Caliornia, appeal to you the representative of nother state, but a senator whose ability the pride of our slope, irrespective of arty, and whose broad statemanship, as hown by your course in congress, emraces not only the interests of your own tate, but those of the whole coast and the ntire country.

Under the kind influences of our skies and the protective policy of the government e have been induced to inaugurate an inustry new to the American continent We have had many trials and discouragenents, but we have met them with fortiide, haping for a happy outcome. No aisin vineyard in C difornia has ever reaid any adequate per cent, upon the apital and labor invested. We have simly tailed on in faith until the time the ratit should come.

But now through the grace of his majesty, be reigning president of the United States. ad his followers, we are confronted with proposed reduction of 1/2 cent in the ariff upon raisius

This fraction of a cent may appear idiculans thing to a body like the senate omposed of millionaires, but to us poo erend-winners it is vital, and represent he profit we have been struggling and aping for through years,

Spain, our competitor, has these advan ages; she can get labor at an average o 5 cents a day, and she cau land he aisins in New York at a freight cost of ents a box. Our labor has increased upo is to a dollar and a half per day, no mat er what element we employ, and is likely o go higher: while despite the govern nent's munificient subsidies to build con inental railways, wa are compelled to pay n average of 38 cents a box to get on aisins to the eastern market.

Protection has not increased the price of raisins. Competition alone has regu ated the market value. Under our dis dvantages of labor and transportation he tariffs is the only thing that gives u ven a fighting chance.

Unless congress is willing to hold that hield before our infant in lustry, on asse is hopless. From the time the first box of California raisins were offered in he market the Spaniard has stood at the loor, poniard in hand, endeavoring to kil he American product. It is for the honor ble senate, which we have been taught to believe is the guardian of the general weal o determine whether the attempted assis ination shall succeed or not.

We present these facta knowing we are humble and insignificant factor in the reat economy of the union, but trasting on will realize that no single industry is he nation can be stricken down withou njury to all, and that our poor welfare is is much to us as is to them the interest of he richest or greatest.

We put our trust in you and the honora- treme old age, but in this he was mistaken ble senate to stand by us, otherwise we are rnined.

#### GRAPES AS FOOD

It is now universally conceded by all scientists and well-informed men, in all professions, observes the l'inegardist, that as food for haman begins, there is nething in all the veg-table world and its vast numbers of productions superior to, or equal, to good varieties of ripe grapes; and they not only give strength, endurance and vivacity to those who regard themselves as well, but restore the sick and debilitated to health, when eaten freely during the vintage times of the year, in the vineyard gain in flesh from five to twenty poundregions of all countries where they are produced, or fresh from the city markets.

As a practical illustration of their natritive and health-inspiring qualities in our own grape growing region, we mention the case of Mrs. Phoebe Swarthout, who resides with her son-in-law, J. F. Crasby who is an extensive grape-grawer on Lake Keuka, and one of our best known and most popular citizens. Mrs. Swarthout for its excellent life-giving elements. was ninety-four years old in January last, and now in good health and strength, not having been sick in years, although she not unite and heal on account of her ex- gus at the roots, which soon destroys them.

as the broken arm speedily recovered, and is now as sound as ever.

Mrs. Swarthout has been a grape eater for years, and is firm in her belief that she could not live without them. She begins with the earliest grapes in August, and continues to eat of them daily until they are gone; and in all of this year and up to the 16 day of May, she as eaten an average of two pounds a day.

It is also a well established tact in this grape region that the large number of girls who work in grap s continuously through the season of picking and shipping, which is from September to December, or later, and many who came from the villages and cities in delicate health, return to their homes well, hearty and strong, and this an empty tray. They find the expos d side now so plentiful.

These are facts and circumstances of most significant import, which speak volumus in favor of the claim made for the fruit of the vine, as superior to all others

WATERING PLANTS .- Persons whose plants mysteriously sicken and die are warned by sustained a fracture of the arm three years Dr. J. W. L. Thudicum, in a communicaago and again a year later, by being thrown tion to the London Society or Arts, that from a carriage, and on the last accasion only pure water must be used in watering the physician said the broken parts would them. Impore water breeds a sort of fun-

#### CALIFORNIA BAISINS AREAD

"We han lie explusively Am rican fruit, ecently said a large dealer to a Mai and Express reporter.

You don't mean to say that these raisins are a product of native industry?

"Y s sir, I do. They come fr m the west. The California raisin industry is grawing into great r pramin nevev ry year,

The Muscat grape is generally us d for making raisins. When the grapes are suffici-ntly rip ned, Chinamen go into the vin yard with wood n trays five feet square and three inches deep, cut off the bra ches and lay them in the trays, being careful that the grapes do u it lie upon each other.

The trays are then laid in the sun and left there. Ten days later the Chinamen go into the vineyarl aga n. each one with is one of the reasons why help in grapes is of the grapes cured, and of a rich purplish The empty trays are now laid bottom up on the filled on s and they are turned over t gather, so that the uncured side is exposed in the new trays. They are left thus in the sun for another ten days, and are then taken to the cooling house, where they are kept for about two weeks. are then packed in box s for the market, in what is known as the "Lond in layer" style, There are no better raisins in the world; indeed there are few that equal them. The production last year was 800,000 boxes. In 1873 it was only 6,000. This year it is ex-pected the figures will reach n arly one

# EAST BOUND THROUGH FREIGHT.

Forwarded by the Southern Pacific Go May 1888

FORWARDED FROM							ls P	OUNIN.
Auticles.	San Francisco	OASLAND.	Los Angeles.	Cotton.	SACRAMENTO.	SAN JOSE.	STOCKTON.	MERTSTLL
Barley						*******		
Beans Cooks and Stationery	13 ,360		24,0%)					
Borax	143,240		*******					
Brandy	32,540		55,550	*** ****	16,150	13.170	220	
Canned Goods	325,650				** ***	52,650		
Couna Merchandise	119,970 12,240							
Chocolate	5,220				******			
Ul thing, California Manufactured.	39,810		****			*****		
Coffee, Green	173,080							*****
Drugs and Her 6	14,590	******					10,250	
Dry Goods Empty Packages	40,025		120,000			*** ** *		
Fish Pickled			120,000					
Fruit, Dried	113,710		530		1.751	-2544		
" Green Deciduous		26,0%0			153,130	46,760		
" Citrus	4,160		523,710	210,320				
Glac		*****			2,250		****	
Hair	7,250							
Hardware								
Hide			101,500		43,770			
Honey	1,200		******		011 400		*****	
Hopes	10,000	3,500		20,000	214,490 50.000		******	
Leather	120,610		2,290		116,380	21,260	1.120	
* Scrap								
Lumber	50,560							
Machinery	23,860	40.00				2 1,110	*** * *	
We chandler, Asiatic (in bond)	15,510							
Misc llaneous	271,190	68,010	70,500	2,060	70,110	21 230	2,540	10,5
Machard Seed	3,010 27,190				1,230	400		
Nulta .	24,557		25,61p					
Oil, Whale	151,100		4 11		= =			
Unious	43,160				85,180			
Potatoes	122 550 1.135,570		124 0.44		14111			
l'owder	1,121	69,510	21,060		172,250 47,970			
Quicksilver	2,710				40,777,10			
tialsins	107,370			54,960	44,090			
Rice	001 ***							
*ced.	301,560	** **			54,690 22,160			
Saingles	281,600	91,570			21 %20			
Silk	182,150							
Sdk Goods	11,7 0 38 830							
Sugar	10,817,880			*** * * * *			4	
Tea	718,520							
Tobacco lesi								
Vegetables	405,340		120,000		923,510			
Wialebone	35,350	4,700	339,290	710	506.150			
Wool, Grease	730.600	4,700	29,050	710	506,150 35,150	99,020 13,200	509,490	226.9
" Pu led.	25,290				107,680	13,200	001,4181	226,
" Scoured	43,240							
Woolea Goods	43,520							
Tota's,	18 959,140	268,370	1,437,900	255,050	2,700,100	291,320	8,3,2 2000	012
			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	2 7,111,10	2,177,170	21,1'2'(1)	526,390	287,8

#### Recapitulation.

San Francisco. 15,959,140

Oakland 266,370 Los Anceles 1 137,800

2,700,100

San Jose 291,320

520,300

Marveville. 237,880

255,050

ternad Tatal.



E. C. Hughes & Co., - - Proprietors Office, 511 Sansome street. .... Postoffice Box, 236G

#### TERMS-PAYABLE IN ADVANCE.

One copy	one six	year		 		 	 	 	.\$3 1	00 75
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AGENTS.
ANAHEIMMAN NEBELUNG
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HONOLULU J. M. OAT, Jr & Co
HOMODOBO

FRIDAY......JUNE 22, 1888

# FOR SALE.

#### A Wine Press,

-APPLX AT-

Office of "S, F, MERCHANT."

#### PRECOCIOUS OLIVES.

EDITOR MERCHANT:-In the short leader you dedicate in your last issue to the importance of olive culture, you mention that in the soutbern portion of the State, trees which are less than five years old, are now laden with fruit. In justice to our own bay portion of the State, let me mention that Irvington is but ninety-five minutes distance by rail from San Francisco, and that the young olive trees on the grounds of the Gallegos Winery here before they were then three years from the nursery, bore a copious crop last winter. From one of the hundred and odd trees I picked nearly eighty pounds of rips olives of the Mission variety.

This may not be a solitsry instance. For s certainty the level ground at Irvington, as fertile as one can find any soil, seems to favor the olive to a degree which can not be ontrivated by much advertised Southern California. F. Pdff.

Irvington, June 12, 1888.

THE FOLLOWING vineysrd notes are gleaned from reports presented before the late meeting of the Santa Clara Viticultural Association:

Considerable trouble is experienced in Napa, Sonoma and Yolo Counties, especislly with the army worm. A new disease known as root-rot has done some damage, chiefly in the canyons at Glen Ellen; some injury is reported from frost. At Livermore endeavors are being made to raise \$250,000 for a co-operative winery. One is also projected at San Jose, sad a new winery is talked about for Mountain View. The vines in Cupertino district, the Santa Clara valley, and along Stevens Creek, are said to promise first-rate crops.

ATTENTION is directed to the advertisement of S. P. Taylor & Co., which appears in another column of the MERCHANT. This well known house, dating back in the business annals of the Pacific Coast to 1856, is still to the fore, as the leading manufacturers and agents for paper of all kinds.

#### Regular Semi Annual Meeting Election of Officers,

The regular semi-annual meeting of the State Viticultural Commission was called to order by Vice-President Wetmore Monday morning. There were present Commissions Wetmore, Krug, West, De Turk, Shorb, Manlove and Doyle, also Chief Executive Officer Wheeler and Secretary Clarence J. Wetmars.

Chief Executive Officer Wheeler reported that the report of the last convention would he ready in a short time for distribution. that the 1887 report of the Commissioners would soon be ready to be sent to the State printer; also that he has had translated a treatise on wine making by Ladrey, and when printed by the State Printer would be for free distribution.

The Chief Executive Officer was then instructed to confer with the Committee on Distillation and prepare an essay on distillation, and to submit the same to the board

The election of officers for the ensuing year then took place, resulting as follows: President, Charles A, Wetmore; Vice-President, I. De Turk; treasurer, Charles Krug; secretary, Clarence J .\_ Wetmore; Chief Executive Officer, J. H. Wheeler,

Mr. Doyle then offered a resolution, which was adopted, directing the Chief Executive Officer to ascertain and report to the board under what section of the Revised Statutes and Departmental Rulings cherry juice, so called, is admitted by the custom officers at a less rate of duty than distilled spirits, which form a component part of it of chief value.

At the afternoon session Mr. Krug moved that the President appoint a standing Committee on Statistica, whose duty will be to supervise and direct the gathering of statistics in conjunction with the officers of the commissions. The motion was carried and the president appointed the following committee: Messra. Krug, West and Shorb,

At Tuesday's session, C. A. Wetmore, chairman of the Committee on Permanent Exhibit and Viticultural Trade Exchange, reported that the members of the committee had consulted together and had agreed upon the following prespectus.

Prospectus of proposed Permanent Exbibit and Viticultural Trade Exchange, under control of State Viticultural Commis-

First-A commodious store should be rented, on ground floor, with good cellar, in a favorable locality.

Second-Transfer of all the present offices of the commission to such store, after fitting up suitable rooms by proper partitions, etc., reserving the larger purtion of such store for (a) permanent exhibit of wines, brandies, raisins and other viticultural products of California, together with maps, photographs and other illustrative attractions for the general public.

(b) Sampling department, where an opportunity will be given to purchase and sample any of the products offered by producers and admitted in accordance with rules governing the same; exhibitors in this department to be credited with proceeds of products sold at their regular trade prices and profits of retailing same to defray expenses as far as practicable, and all surplus profits to be paid into the State Treasury. Visitors in this department to be guided only by their own tastes and desires, sided by the catalogue; all interference on the part of the management and

THE VITICULTURAL COMMISSION. service in guiding taste or selection to be strictly probibited. The management not to be responsible for unsold sample, excepting reasonable care of same, which shall be subject at any time to withdrawal by the exhibitor after paying any necessary expenses incurred specially with respect to them; such exhibits shall be subject also to be returoed to the exhibitors at any time in accordance with the rules of this department. Sampling also provided for in this department of such experimental stocks which are the property of the State from the experimental cellar as may from time to time be determined.

Prices for retailing samples to be as fair as practicable, but so fixed as not to come into unfair competition with the ordinary retail trade. All attempts to use this department for the purpose of undercutting fair trade prices to be discouraged by strict rules, but every encouragement in favor of good prices for superior goods to be afforded in order to stimulate the production and care of fine products.

(c) Viticultural Trade Exchange, where in facilities for producers, brokers, tradesmen, and wholesale merchants to meet and examine products by sample, will be afforded subject to special rules.

(d) Cellar for storage and experimental work.

Third-Management: The permanent exhibit and sampling to be under general direction of a special committee, and managed by an officer of the Board, with anch assistance as may be found necessary In case this work is added to the work of the secretary, an additional compensation to be allowed for the same.

Fourth-The Exchange Department to be organized by the Executive Committee of this board, with power to associate with them an advisory board of control from outside the Commission whose rules shall first be reported to the Commission for approval.

## A PERMANENT EXHIBITION.

After considerable discussion on the above plan, the following resolution was offered by Mr. Doyle and unanimously car-

Resolved, That a permanent exhibition of viticultural products of the State be established in connection with the offices of the Commission in the city of San Fran-ciseo; that the plans authined by the Spe-cial Committee just reported, be approved, and that it be referred to the Executive committee to prepare and adopt the details of such plan, and to earry the same out; that the premises under the Mechanics' lustinte building on Post street are deemed suitable for the purpose, and the committee is authorized to rent the same unless more desirable ones be found, and fit the same up for the offices of this Commission, the permanent exhibition of products aforesaid and with a view to the establishment of a Viticultural Trade Exchange on the same

### NEW COMMITTEES APPOINTED.

The President then sppointed the fellowing committees: Executive Committee, De Turk, West and Manlove; Auditing Committee, Manlove; Finance Committee, Doyle, Rose and Shorb; Vine Peats and Disease: of the Vine, De Turk, West and Manlove to Confer with Board of Regents, Doyle, West and Krug; Distillation, Counterfeita and Adulteration, Shorb, West and Krug; Evils Resulting from the Introduction of Foreign Fruit Juices as at Present Allowed, Doyle, West and De Turk; Raisin and Table Grapes, West, Rose and Manlove; Experimental Wine Cellar, Wetmore, De Yurk and Krug. Mr. Shorb then moved that a committee of three, of which the President should be Chairman, should be there probably be a full crop.

appointed to wait upon Miss Kate Field and see if she would accept the office of Lecturer for the Eastern States, on subjecta portaining to the wine industry, and if she would ac ept, to see if satisfactory arrangements could be made. The following committee was appointed: Wetmore, Shorb and Dovle

On the motion of Mr. Shorb, the Execu tive Committee was instructed to draft a set of resolutions showing the appreciation of this commission for the work done in the past for the viticultural industry of the State by Mr. Arpad Hrraszthy, late President of this commission.

### A COMPLIMENTARY BANQUET.

The following members then waited upon Mr. Hsraszthy and notified him of the action taken by the Board, Messrs, Wetmore, Manlove, De Turk and West. They also notified him of the act of the members, unofficially, in inviting him to attend a banquet at which the principal vine growers, merchants and other prominent men will be invited to be present. The banqu t will be given to Mr Haraszthy some time in July.

Mr. Sborb notified the members of the commission that the condensed must his company had sent to England had arrived there in good order; that they had fitted up place in London, and had fermented out 10,000 gallons of wine, and that wine experts there had pronounced the wine made to be superior to that made from Italian must. The meeting then adjourned.

#### GOOD BRANDY GRAPES.

IT HAS BEEN found at the recent cone urse of agricultural exhibitors at Auch in Southern France, that the introduction in the vineyards of that region of the Cabinet variety has caused a complete change to superiority over the former product from the habitual varieties of that department, Of American varieties Herbemont-Fouzan was found to have yielded the best wines, nearly acceptable to the trade, as it is only slightly foxy in taste.

Noah and Elvira appeared of no use for wine, but the wine made from these two varieties seem to have in its (wild) rank taste a fullness which imparts merit to the distillate from them, and the growers in Gers are advised to propagate the Noah and the Elvira plants for the production of good

THE CELEBRATED brands of fine old whiskeya, for which the firm of Dickson de Wolf & Co., are the sole agents on this Coast, have won a high reputation among consumers, who appreciate the evenness of quality, which has been maintained during the many years they have been in the market.

The names of these different brands, appearing in the advertising columns of the MERCHANT, have grown to be household words with the people of the interior countries, their medicinal properties having been satisfactorly tested in cases where an absolutely pure stimulant was required. The name and reputation of this old catablished business house is a sufficient guarsptee in itself of any goods it may place on our market.

SECRETARY WHEELER of the State Viticultural Commission has received a letter from St. Helena, stating that the graps erop in that district will fall much short of the earlier expectations, owing to conleur and other diseases. The grape crop of the northern counties will fall far below he average, and onlyin Santa Clara conntty the counties immediately adjoining, will

#### THE CHEMISTRY OF WINE

In the ripening, maturing or ageing of rine, the changes which take place are umerous, yet there are two principal ones o which special attention is usually directd by experts, who judge the qualities of rine. These are:

First .- Bouquet and flavor, and Second. - Clearness and brightness.

To what agency the changes produced in vine by age are due, but very few experts are to inquire. They simply look for the onditions desired, and wait for time to oring them about. In the ripening of wine, lowever, as in all other organic changes very off ot has its cause, and the relations of cause and effect can be traced by means of chemical analysis, and the study of hemical affinities.

That the desirable changes produced in rine by age are chemical, no doubt can xist among scientific investigators.

In the production of bouquet and flavor he fusel oil, and other essential oils, mite with alcohol and form a new element called aromatic ether. nakes it agreeable to the taste and healthy o the consumer.

The good, bad or negative effects of cerain substances of every day use in their simple form or in chemical combination, may be illustrated by a few practical examples, to wit:

Lye and oil when mired in proper proportions and heated, will unite chemically and form a new substance called soap.

Fine soap may be eaten in considerable quantities without producing any constitutional inconvenience, yet if the same quanity of iye from which the soap was made should be swallowed, the results of its corrosive effect would be very serious.

Tartaric acid and carbonate of soda when aken separately are disagreeable to the aste, and defeterious in their effects, but when mixed together in water they proluce a pleasant and healthy effervescent beverage.

Common salt (chloride of sodium) is a substance that is used largely in the preptration of food over the entire civilized world, yet chlorine uncombined is a rank poison.

The air which we breathe is composed of oxygen and nitrogen, the water which we frink is composed of hydrogen and oxygen, and the food which we eat is composed argely of carbon, Without air, water and ood all life would immediately become exinct. Two equivalents, however, of carbon and one each of hydrogen and nitrogen compose hydrocyanic acid, one of the most leadly poisons known, proving in many cases almost instantaneously tatal. A grain and a half of the anhydrous acid is capable of producing death in the human subject, and one or two drops of the pure acid are inflicient to kill a vigorous dog in a few

All wines and fiquors are composed prinripally of oxygen, hydrogen, nitrogen and arbon. These elements may be combined n a manner that their effects upon the sysem would be poisonous, while the same elements under different chemical combinaiona would be healthy and invigorating.

Second .- The clearing and purifying of sine involves chemical changes which few people, and some experts, do not fully unlerstand or appreciate. They seem to hink that clearness and brightness pleases such is not the case we will presently show, subject of wine.

All new wines contain proteine compounds in the form of albumen, pecture, caseine and gluten. It is a fact beyond all question that wine can never appear clear and bright as long as these substances as such are present in the liquor. By the action, however, of the natural acids and alcohol upon them, it is evident that new compounds are formed, producing body and richness in the wine, while the residue in the form of inert tannates, readily separates from the wine by falling to the bottom of the vessel containing it. This renders the wine clear and bright.

It is due to these nitrogenous or proteine compounds that secondary and tertiary fermentations take place, and no wine will keep well or is fit for use until they are disposed of. In their original state they are as fimpid as the wine itself, so that no amount of fining or filtering can remove them. Their removal is, however, not desirable, for these are evidently just as essential in producing richness and body, as the oils are in producing flavor and bouquet.

To illustrate, the caseine of milk when separated from the whey, or watery portion, and pressed into a solid body makes cheese Nothing, however, is more tasteless and insipid than new cheese, but when it be comes ripe with ag , it is transformed into a delicions article of diet.

It is in the nitrogenous elements that that germs propagate and grow. No germs can exist in an old wine in which the proteine compounds have assumed new chemical combinations, and have ceased to exist definitely as such.

A good ripe or mature wine is therefore one in which the essential oils have been transformed into aromatic eth rs, and the proteine compounds have assumed new chemical combinations, and the residue of tanuates, tartrates and other foreign matters have separated from the wine by precipitation. The wine is then "buttle ripe" and can be kept an unlimited length of time, and is at any time fit for use.

Time alone, heretofore, has been relied upon to bring about those ehemical changes and combinations. Although a vast amount of intellectual fabor, and large sums of money have been expended with a view of shortening time and saving expense, yet no successful method was ever found, till Dr. Fraser's discovery was made of placing it in the magnetic field. That this process does actually save an immense amount of time, a vast expense, and produces results equal to those acquired by time, no doubt can exist, and that a revolution in the wine industry of the world is an event of the near future.

# AN ADMIRABLE STUGISTION

EDITOR MERCHANT:- Knowledge of the nature, the proper use and the hygienic effect of wine, the family beverege, is what should be diffused among the American public, particularly in view of the encroachment upon an industry by the absurd teachings of well meaning people who are particularly ignorant on that bead and confuse have se n it in operation, have wen bred wine with distilled drams.

A step has just been d-cided upon by our State Viticultural Commission, which if successful, will instil life where now sluggish indolence as to the necessity of counteracting prohibition fallacies distinguishes our graps-growers. That step to be taken is that Miss Kate Field be asked to expound he eye the same as bouquet pleases the in her lacid, truthful and patriotic manner sense of smell, and flavor the taste. That exactly what are her impressions on the

among us has studied everything appertaining to our industry in all details. Her own conclusions will be instructive and yield a great deal more juice than those authorative. They will be persuasive, for she is well versed in the matter, and her views cannot be in dissonance with what a hundred millions in wine consuming ountries know to be the truth. Carfornia society had opportunities of hearing Miss Field speak and no one will dispute that she is as brilliant and refined as her ideas are bright and replete of good American's na-

Among the cultured people in Eistern States who know Miss Field well, it is notorious that she never speaks on a subject before she has not exhaustingly studi d the tru inside of it, and that she will not utter an opinion b fore thoroughly weighing both sides of a question, and having posess d herself, if possible, of documentary proof where doubts may aris...

After having investigated during a lengthened stay in Utah every detail relating to Mormandom in its aspects in the last years, Miss Field was approached in Washington, D. C., by many of the most prominent ladies, who asked her to express in public her views and experiences on that momentons question. A long list of the gr atest names, the wives of Cabinet Ministers. Senators, Congressmon, mi'itary, navil and civil officers of highest rank, was placed under their invitations to the lecture solicited from Miss Field. The many hundreds that listened to her speech, took away clear impressions and a full insight into Mormon matters as they are and details and proofs which could have been obtained from a num rous Commission that might go to investigate the same thing. The andience carried away additional confirmation of the fecturer's brilliant, trustworthy and courageous perspicacy, adding to the high regard for her us a model of patriotic and refined American womaninool. If ther is any friendship the writer is honored with, he prides himself of that of Miss Field for the last two years. She needs no prompting in expounding a subject she masters. Prohibition views, in their bearing as to temperate habits, excluding wine from the family table, cannot stand the light which that true temperance fady, Miss Fie d, will shed into the darkness of ignorance that condemns what our Savior has sanctioned and blessed. F PDFF.

Irvington, Cal., June 14, 1888.

We call the attention of our readers to the advertisement of Messrs, Paré Brothers. published in another column. Wine-producers in need of a good and reliable winepress, will undoubt-dly find it to their advantage to call on those gentlemen, before purchasing elsewhere. Their press, "Le Merveilleux," is in fact as well as in name, a true marvel of simplicity and str ngth It has been awarded the first premium ov a all competitors at the late State Fair, and has carried the first prizes wherever exhibited. All those who have used it, speak highly of its worth, and the thousands who how a machi e could produce such gratifying r su ts, with so little labor. Having assist dats ov ral public tests mad by Messrs Park, we can truthfully say that their press is really able to do all it is warranted to perform, and we heartily resummend it to wine-makers as the bist ther is on the market. Its c st, we are informed, is no greater than that of any oth r, notwith-

Miss Field during her eight months stay over, grapes subjected to the enormous pressure obtained by the mans of the ratchet lever used in the "Le Merveilleux", crushed by other presses, and therefore, bring gr ater returns.

> It may be well here to relate how "Le Mery illeur" the marvelous acquired its fame and came to be proclaimed the most powerful press in exist ace. A few years ago, at the time when the inventor, Mr. Dominique Lille, was introducing his press and striving to establish its reputation, there was held a Viticultural Fair in one of the wine districts of Southern France. As may be imagined, press manufacturers availed themselves of the opportunity afforded to display their wares, and as a matter of course, great was the strife for superiority. As all the presses on exhibition were of the best make, and able to perform good work, a test was necessary to d-termine which one was entitled to carry off the honors. Grapes were available, but it was thought that a denser and more compact substance should be selected in order to make a better experiment. They proceeded, therefore, to fill up their presses with saw-dust previously soaked in water. All the competitors worked their presses to their atmost capacity, and succeeded to extract most of the water. Lille's press was found to have squeezed out the greatest amount, but not satisfied with this, the inventor insisted upon trying what his machine could no with the hardly moist saw-dust pressed by the others. cons quently cleaned out his press and then re-filled it with the saw-dust taken out of the most powerful among the other machines. And to the great am zement of all the spectators, he succeeded after a few minutes work to draw out several gallons more of water. All those present could net refrain from exclaiming in view of the feat, "Is it not marvelous?" "Is it not marvelous?" M-rveilleux.) And Mr. Lille's pr as has been called by that name

M ssrs. Pare were quick to appreciate the merits of the Frenchman's invention and soon entered into negotations with him, whor by they secured the exclusive patent right for both American and the Australian Colonies. Being men of push and of great activity they soon had placed their presses in all the great vineyards of the State, and built up on the Pacific Coast an industry of which they may well be proud. They may b found every day at their factory, where the in st courteons reception awaits all

## WHAT A TON OF COAL YIELDS.

A ton of coal yields about 8,000 feet of gis and 1500 pounds of coke. The punfiatt in of the gas furnishes forty-five gailas of ammonia water, from which is obtain d sulphate of ammonia for agricultural purposes, and about 130 pounds of tar. It is here that the operation becomes especially interesting, for from this last-named product are obtained seventy pounds of jutch, eighteen of creosore, nine of naphtha, thirteen of heavy oils, six of naphthaline, four of naphthol, two of alizarine, about one each f planol, aurine and ani ine (the substance to which we are indebted for so wend rful colors, ten ounces of tolnidine, six of anthracene and twelve of toluene Finally, it will not rest photographers to know that hydrogamion, that product that has been so much speken of recently, and standing the fact that it does the work more rapidly and more rightly. More-

# OUR NATIVE WINE SHIPMENTS BY SEA.

TO 3	VEW	YORK -PET	SHIP GRANADA.	June 7 1888

MARKS.				
	SHIPPERS.	PACKAGES AND CONTENTS.	GALLON 8	RALUE
C W	S Regensburger	5 barrels Wine	239	8 116
ef		5 half-barrels Brandy	139	345
W	Dresel & Co	3 barrels Wine	155	GF
	44	1 puncheon Wine }		
X	"	6 harrels Wine	375	25€
Y	44	25 barre's Wine	1,258	57
W Co		4 barrels Wine	198 4,722	1.890
C	A Passage	3 barrels Wine	141	5
in diamond	s to hm n 3 Co	12 barrels Wine	596	216
8 B	41	i harrel Wine	50	63
in diamond	+4	1 harrel Wine		
**	46	2 half barrels Wine	103,	8
in diamond	44	6 barrels Wine	296	18
in diamond	16	12 barrels Wine	597	319
A		25 harrels Wine	1,297	36
Y Co		60 barrels Wine	2,833	1,13
D& 0	B Dreyfus & Co	100 barre's Wine,	4,800	1,95
ii.	ii.	10 barrels Brandy	1	
11	ii ii	25 packages Brandy	2,085	1,25
G M & Co		25 cases Wine.	2,5150	16
& F	Kolder & Frohling	3 puncheons Wine	478)	10
44	19	50 harrels Winc.	2,502	1.53
in diamond	4+	3 Larrels Brandy	146	29
B	C Carpy & Co	30 barrels Wing	1,176	GU
G	44	18 barrels Wine	890	30
A	41	10 barrels Wine	493	19
F	**	52 barrels Wine	2,553	1,04
S & Bros	"	50 barrels Wine	2,456	1,01
B&S		25 barrels Wine	1,229	47
C	"	25 barrels Wine	1,226	48
Total amount of Wine	Sa see and		31,056	\$13,24
Total amount of Brandy			2.370	1.89

#### TO CENTRAL AMERICA

		}
J R, l'untas Arenas   Montealegre   2 barre's Wine	701	\$ 52 120 22 91 24 27 48
L & A S, Champy Eng de Sabla & Co 40 cases Wine		120
A C M, Acajutla		22
L P, Ac. jutia 6 balf-barrels Wine		91
FALL, Acajutla " 10 demijohns Wine		24
2 half-barrels Wine	50	27
E R, Guatemala Hellman Bros & Co 6 cases Whiskey		48
Total amount of W ne, 40 cases and	340	\$337
Total amount of Whiskey 6 cases and		48

### TO PANAMA.

J B & Co	L F Lastretd	10 kegs Wine	.   50

# PER P. M. S. S. CO'S STEAMER SAN JOSE, JUNE 15th, 1883

### TO NEW YORK.

			_	1
A V	Lachman & Jacobi	15 barrels Wine	760	8256
A in d a nond		20 barrels Wine	1.025	385
S in diamond	6+	25 barrels Wine	1.276	321
E V B in diamond	1.	30 barrels Wine	1,523	520
В В		20 barrels Wine	1.013	311
F A		25 barrels Wine	1.283	363
L K		30 barrels Wine		583
		oo oarren wine	1,518	
U D & Can	C Schring & Co	200 barrels Wine	9,824	3,930
E B & Son	0.100	1 cask Wine	94.	95
LU&CO	Cal Transfer Co	50 barrels Wine	2,250	1,800
CV Co	B Dreyfus & Co	25 barrels Wine	1,256	630
h&F	Kohler & Frohling	210 barrels Wine	10,650	5,857
E Ø	Williams, Dimond & Co	32 puncheons Wine	5.120	2,048
O in diamond	S Lachman & Co	5 barrels Wine	253	139
A in diamond	64	2 barrels Wine	101	91
B & R	66	7 barrels Wine	352	205
R O C	16	11 barrels Wine	5502	200
4	14	A bear Day of	553 )	=
11 5 0	16	1 barrel Brandy	45 [	437
M & S	1 "	11 barrels Wine	560 }	- 1
	1 "	1 case Wine		35
Total amount of Wine,	I cases and		39,420	\$18,262
Total amount of Bran 1	v	,	45	9.1

#### TO CENTRAL AMERICA.

A L & Co, Corinto B Dreyfus & Co	kegs Wine	107	\$ 90
R & A, Ocrs	3 half-harrels Wine	81	100
K & A B, Corinto abrera, Roma & Co	6 kegs Wine	90	93
D B, Amapala F Mecks	4 cases Wine	•	18
44	1 keg Wine	10	5
C H. San Juan del Sur W Loaiza	3 cases Wine	117	52
C & N. Oers E L G Strele & Co	24 cases Wine		82
J 11, La Union Cal Transfer Co	1 barrel Wine	50	(1_
1,	1 keg Wine	10	60
44	1 keg Brandy	10	20
B & G, La Libertad John T Wright.	12 cases Whiskey	10	91
E C, La Libert id	2 balf-barrels Wine	49	31
G Z A, Ocrs Eng de Sabla & Co.	Chan Wine	80	54
d z it, octavit	10 sees Willeman	80	
A D, Amapala	12 cases Whiskey	110	86
P. A. it do Amanolo II I Mante to de	7 kegs Wine	116	77
P A & Co, Amapola J J Mack & Co	1 keg Wine	20	10
The ball amount of Miles Oliver	[-		
T tal amount of Wine, 31 cases and		613	\$672
Total amount of Whiskey, 24 cases and	***************		182
Total amount of Brandy		10	20

# TO MEXICO

	10 M1	axico.		- 1
B H F, San Rlas J J a	ack & Co	1 package Wine		8 6
T 8, Ma zanilla J H	Dieckman	2 kegs Wine.	34	30
A V, Manzamila W Lo	on za	1 balf-eask Wine	28	13
P D & Co San Benito	**	4 casks Wine	240	107
L S, San Benito E L	G Steele & Co	4 cases Whiskey		56
**		2 kegs Wine	20	60
A D. Manadan		6 kegs Wine	60	45
A P. Mazatlan Than	inhauser & Co	5 cases Wine		80
J O V, Mazatlan J Gu	udlach & Co	3 tarrels Wine	188	107
C G		2 barrels Wine	94	56
A G, San Benito Cabr	era, Roma & Co.	6 kegs Wine	60	55
M C, San Benito	14	2 easks Wine	120	75
Y DC, Maozanilla		3 k gs Wine	60	51
G & V, Manzanilla	"	1 keg Wine	20	18
Total amount of Wine 5 cook				2010
Total amount of Whichest 1	es and		909	\$643
rocar amount or whiskey, 4	cases			56

TO	NEW	VORK	Pen Spr	n Lucrie	Trivin 19	1888

R A W	IA L Tubbs	I barrel Wine	51	\$ 20
wsp	4*	1 hairel Wine	49	19
J O	"	1 harrel Wine	52	21
J C	C Carpy & Co	50 barrels Wine	2,453	981
6 M	46	25 barrels Wine	1,231	492
LP	į "	26 barrels Wine	1,178	471
C in dlamond	60	200 barrels Wine	9,791	3,916
F B & S	- "	27 barrels Wine	1,327	531
A C	**	30 harrels Wine	1,476	500
S & Bros	46	56 barrels Wine	2,458	983
G B	11	30 barrels Wine	1.477	591
A A	14	29 harrels Wine	1,429	572
44	16	1 half-barrel Brandy	27	54
L C & Co		76 barrels Wine	4,540	1,816
EB&J		1000 barrels Wine	49,516	19,806
D M K & Co	Delafield M Kessel & Co	300 barrels Wine	14,841	5,936
K & F	Kohler & Frobling	536 barrels Wine,	27,303	9,921
J W & B		52 barrels W ne		964
A V Co	C Schilling & Co	160 barrels Wine	7,852	3,141
64	-64	50 casks Wine	5,350	2,140
B D & Co	B Drevius & Co	750 barrels Wine	35,965	14,386
K & F	Kohler & Frohling	1.17 barrels Wine	7,350	2,940
4.0	44	100 barrels Wine	4,897	1,759
JAS	**	50 half-barrels Orandy	1,309	2,618
G		300 barrels Wine	14,188	5,675
CS	Charles Stem	62 puncheons Wine	9,300	3,720
11	14	50 barrels Wine	2,500	1,000
C	S Lachman & Co	600 barrels Wine		
"		75 half barrels Wine	31,466	12,586
e6	14	400 cases Wine	1	600
			240450	\$96,180
Total amount of Brandy	·		1,336	2,672

#### MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESS?I	RIO.	GALLONS.	VALUE.
Victoria	Mexico	Steamer	639 1,054	495
France	City of Pekin	Bark	1,361 880 1,265	408
Tah ti	Tabiti Alameda	Brig, Steamer	1,572 1,639	
Africa	-impire	Steamer	49 258	26 56
Japan	City of Sydney	S eamer Barkentine	25 90	$\frac{20}{71}$
Total			7,471	

Total shipments by Panama steamers. 40,942 gallons Total Miscellaneous shipments. 271,846	\$19,537 109,762
Grand totals	\$129,299

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WAGON SCALES

\$40





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#### ANTHRACNOSE.

#### Extracts from U.S. Botanical Division Bullettu No 2

BY P. L. SCRIDNER, D. LC.

Authrachose, like the black-rot, is caused by a minute fungus, the habit of which, tection of the berries against Authracuose lowever, is radically different from the lungus of that disease, as are also the exernal chang a which it induc s. All the cept for the berries, is hardly practicable green parts of the vine are subject to its in vineyards of any size, and other remedies ttacks from the beginning of spring vegeation until the close of the growing season, and wh n very abnadant, the injury crious as its action on the fruit.

External Character. That the external by the growth of a special fungus has been hoots and berries.

On the shoots. - There first appear minute rown spots, a little depressed in the midlle, with a slightly raised, darker-colored im or border. These spots soon increase u size, elongating in the direction of strine t the bark, the central portion becomes nore evidently depressed and usually takes n a grayish hue. The bark is finally testroyed, and, in severe cases, the woody issues beneath appear as if burned or coroded, so deeply sometimes as to reach the hith

The appearance and action upon the eaves is similar to that upon the stems, and it is certainly very evident that where he diseased spots are numerous, and the action of the fungus preceeds without inerruption, both shoots and leaves must accumb to the parasite. The intensity of the disease upon the shoots may cause the lestruction of the young leaves, even when he latter are not directly attacked.

On the berries .- So far as my own observations are concerned, the severity of the lisease has been especially manifest in its feet npon the fruit. . . There is a small spot, grayish in the cent r, wh r the coticle of the berry has been distrayed, wito a dark brown border. Previous to the bursting or rupturing of the cuticle the entire spot is of a deep brown color.

These spots enlarge, retaining a more or ess regular, rounded outline, and between the light colored central portion and the lark horder line, there is developed a well lefined band of bright vermillion: finally under the action of the disease, the berries begin to wither and dry op, leaving oothing, apparently, but the skin and the There is no browning of the tis sues of the berry as in the case of blackrot, nor does the skin shrivel as in that lisease, leaving prominent and very irregu. ar ridges, but the circular spots first formed are easily seen and the colorings characeristic of the disease are retained.

A berry may be attacked upon one side when it is not more than half grown, it hen becomes irregular in shape, the diseased part making no further development, and it sometimes happens that this side cracks open, exposing the seeds, which are gradually forced out by the unequal growth of the berry.

Remedies .-- It is certain that this disease prevails most in wit seasons and in low situations, or upon poorly drained land. Foo high manuring, especially with fresh lung, seems to favor the development of his parasite.

As with the Peronospora or Downy millew, water in condensed form is necessary or the diffusion and propagation of the found by chance, will, say the Iriah, keep afterwards neglect the two first, but must way .- Ex.

disease, and any appliance that shall prevent the deposition of rain or dew upon the foliage, or other parts of the vine, will secure immunity from the disease. Inclosing the half grown bunches of grapes in paper bags will doubtless be as useful proas from black-rot, and for the same reasons. This system of vine protection, exof a more general application must be sought.

The sphacelema grows very near the occasion d to the young shoots is quite as surface, and as soon as it bursts through the epidermis it is practically exposed in all parts to the direct action of the fungcharacters of Authranose are determined cities. Much mischief to the vine may be done before this exposure of the myedlinm I anonstrated by repeated innoculations or | and spores takes place, and, consequently, owings of the fungus spores upon healthy here as elsewhere, prevention is vastly more valuable than care.

> In districts in Europe subject to this disease, the practice is quite generally followed of bathing or washing the vines, in early spring, before the buds have com. menced to expand, with a strong solution (50 per cent.) of sulphate of iron, applied with an ordinary mop or a large sponge fixed to the end of a stick 2 or 3 feet long. This washing should be done when the atmosphere is damp, in order to prevent a too rapid evaporation of the iron solution, which otherwise might result in injury to the vine. When the young shoots have attained a length of 5 or 6 inches they receive a good dusting with the flower of sulphur, whether the disease has appeared on them or not. The new growth is then carefully watched, and at the first sign of the malady they are again treated, this time with aulphur, to which has been added one third to one half its bulk of powdered lime. If the progress of the disease is not checked by this treatment the sulphur is omitted in the salesequent application, which are of finely pulverized lime.

> Where this treatment of the vines with sulphate of iron, followed by frequent and heavy use of sulphur and sulphur and lime, has been adhered to for several years. Authraenose now rarely appears, or has ceased to be injurious, even in locations where before it was exceedingly destruc-

### SUPERSULTIONS CONCERNING THE RESIDENCE OF REAL PROPERTY.

The teeth and the aches to which they give rise, have been subjects of many strange ideas among uneducated people Feeth have been worshiped, and are still venerated as relies in some Catholic shrines. Bud lah's tooth is preserved in a temple in India, and Ceylonese worshipped the tooth of a monkey, while an elephant's tooth and a shark's tooth served a similar purpose among the Malabar Islanders and the Tonga Islanders respectively. Siamese valued a monkey's tooth so highly that they are reported to have offered the Portugnese 700,000 c nwns for it. There was a tradition that, from the time Chos roes, the Persian, carried off a piece of the true cross from Constantinople, the number of teeth in the month of men were reduced from thirty-two to twenty three. It is needless to say that we still have thirtytwo. Teeth have often been worn as amulets. Shark's teeth serve this purpose in Samoa. It was formerly thought that a wolf's tooth, worn in a bag about the neek, would chase fear away from the possessor. The back tooth of a horse,

you supplied with money. There are many omens connected with infant's teeth, as well as those of adults. If a child teethe early, it is thought, in England to predict more children. "Soon teeth, soon toes," is the adage, both in that country and in Sweden. If a tooth comes first in the upper jaw it is, on the contrary, an omen of early death, as the child cannot survive so potent a disaster. An old work, published in 1633, tells us that to lose a tooth or an eye is also to loose some friend or kinsman, or is, at least attended by some ill luck. He who has his teeth wide apart is there said to be attended by good luck Breton mothers will not touch infants' gams, lest the teeth grow crooked. To dream of teeth was a warning of some disaster, unless you dreamed they fell out. The period of teething being an anxious one in childhood, it is extremely important to have it over with. In Sussex, England. a necklace of beads made from prony root, was placed on the child's neck to assist this operation, and one of amber bends was also thought powerful. It is also said that first teeth must be thrown away when they fall out, for if any animal got such a trophy the next tooth would be like that of the animal finding the old one. In Nova Scotia, and in some parts of the United States, children are told that the new tooth will be a gold one if the tongue is keep out of the old cavity. Folk lore is full of odd notions about the toothache, and many queer remedies are current for it. It was once thought to be caused by a worm. One of the most potent remedies was thought to be a charm of some kind or other. 1. England this charm is a rhyme or prayer written on a pi-ce of paper. Verses for this purpose are current in Germany to this day. St. Appolinus was esp cially invoked for this mala y in the thirteenth century. A work published in 1595 pre-Scribedes the following remedy: patient was to inhale the smoke from a vessel in which dried herbs were mix d with live coals. He must then breath over a cup holding water mixed with wax and serum, when it was said that a worm, the cause of the trouble, would appear in the cop. Nearly a century later we find another strange remedy: "With an iron nail raise and cut the gum from about the tooth antil it bleed, and that some of the blood spill upon the nail. Then drive it into a wood en beam up to the head. After this is done you never shall have the toothache in all your life." Another old writer of the same period, Aubrey, gives popular remedies for the toothache. A splinter of wood from a gibbet was thought efficacious in the north of England, while in Devonshire it was thought best to bite a tooth from a skull in a grave yard, and carry it in the pocket as a charm. In another part of England, an equally ghastly amulet was a tooth drawn from the mouth of a corpse, carried in the pocket. The paw of a live mole or a double nut were also preacribed as preventive charms. To dress the left foot and leg before the right is equally effective. Some of the Irish cures for the toothache were fully as ghastly as those cited above. One of these empirical recipes bids you go to a grave, kneel upon it, say three paters and three aves for the soul of the dead, then chew a handful of erass taken from the grave, spitting it out The toothache will never after trouble you Another remedy is to yow never to comb your hair on a Friday, invoking the Creater, the Virgin, and the new moon. You may

kneel and say five prayers on first beholding the new moon. The two jaw bones of a haddock have been powerful in allaying the toothache ever since the miracle of the loaves and fishes. If you wish to avoid the toothache, say the sons of Erin, never shave on Sunday .- Analyst.

### EASTERN GRAPE GROWING NOTES

l'our indeed is the grape grower whose land is poor. Better work for your neigh boring vineyardist, by the day or mouth, and at moderate wages, than undertake to cultivate land on which you cannot expect with a reasonable degree of certainty, to grow a profitable crop.

-See that stakes and trellises are sufficiently strong to support the vinca when in full leaf and fruit. To have them break down in a shower and heavy wind is a misfortune, and a laborious job to straighten them out again, and always attended with more or less injury to the vines,

-Grape-protection bags, made of specially prepared paper-water-proof and practically indestructible -were shown by President A. W. Pearson to the members of the N. J. State Horticultural Society, at the last meeting in Trenton. They are manufactured by a firm in Philadelphia.

-Mr. Espenlaub one of the most extensive and successful vineyardists in Kansas, gives his rule for pruning grape vines as follows: "Trim away from a three-year-old vine in good condition all but twelve feet of new wood, divided among the different branches, and train the arms of the vine as much as possible in a fan-shape on the trellis. Give older and stronger vines more wood; weaker ones less."

-New Hampshire has a grape vine covering nearly one-fourth acre of overhead trellis, that has produced twelve hundred pounds of fruit in a season. The Orehard and Garden publishes this item, and were it not for the excellent reputation of that admirably conducted journal, we should incline to think the story might properly be trimmed down a little. It is a big one to hail from so far north among the gravite

A Mr. Caywood recently said, and we think very reasonably too, that if we sommer-prune every other vine in the row, we will\_not repeat it next year. His experience has been that summer-praning is contrary to nature. It frustrates every natural principle of growth. He rubs off all the shoots he does not want to produce fruit. His theory is that the end of the vine is the demand on the root, and if you cut it off, that you injure the root.

-D. S. Marvin, of Watertown, does not favor the "Kniffen System" of training the vine; for while it has the advantage of doing away with the old wood of the arms, it has two great defects. Its lower arms in a few years are useless, because the sap will all go to the arms upon the upper vines and deprive the lower ones of nutrimout and thus fail. Again, the main trunk will, in spite of all that man can do, clog and fill up so that the sap can no longer circulate freely, the same as in every other except the renewal system." These object tions seem to be conclusive against the system, unless it shall be materially modified, and until some other method of training is made known, the grape growers of our region had better follow in the present well beaten path, and train in the old

#### ROOF ROF IN VINES

Said a prominent viticulturist to a Chronicle reporter last week: "A fungus disease has been prevailing to a very large extent in many vineyards during the last few years but only lately has it been observed. It is doing the most damage near Cloverdale, in the Sonoma district, and near St. Helena. in Napa valley. The discase is called pourridis, and it affects the roots of the vines, eausing them to rot and producwhat is commonly called among vineyardists 'root rot.' This disease should not be confounded with black rot as is frequently done. The only similarity is in the sound of the names.

The malady is one known for years in Europe, and it has affected fruit trees and those of the forest. The parts principally attacked are the southern part of France and Anstria and the Mediterranean countries.

A vine when affected shows general signs of enfeeblement, producing sometimes additional force, but this is only tempo ary, for it is followed with a meager production of foliage and by the rotten condition of the root, which, on being exhibited, is brown in eolor and saturated with water to such an extent as to show the water very plainly when it is cut. The trunk of the vine remains healthy for some time. The general appearance of the vine is that of one attacked with phylloxera. The plants sometimes continue to thrive only from 15 to 18 months, and where the conditions are most favorable to the development of the disease they even die in six months. The disease spreads in a short time over large areas. Favorable conditions are generally produced by excessive humidity in the soil and in an imperviable subsoil which forms a subterrancan hasin where the water becomes stagnant, a condition favorable to the introduction of the disease. The fungus which is responsible for the following disease may be introduced on the vines or even on some vegetables and on trees.

The new fibers of a vine may show up signs of an attack, but the old roots will show swellings which even break through and protrude from the bark with a pithy growth which soon dies and rots. Before long the whole substance of the root decays to such an extent that the vinc, which is far gone, may be pulled out of the soil with difficulty.

Oue can only hope to so modify the conditions of the soil as to prevent the further spread of the disease and to distroy the vines on which it exists. These should be pulled up and burned on the place, so as to avoid any diffusion of the spores, which would be produced in transferring the debris. Follow this with a complete drainage and working up of the ground, and if possible leave it upplanted for several years, after which, if the excessive moisture has been provided for by proper drainage, vines may be again planted in the same spot."

"A sample of this disease," said Viticultural Officer J. H. Wheeler, when asked concerning the matter, "bas just been exhibited at the Viticultural Commission office. It came from a well-known vineyard near St. Helena. Lately many other cases of the same disease have been reported. It has been just identified here in California. This disease, if I might add to what you already have, cannot flourish on well-drained and well-cultivated soil. The damage is probably great, but cannot be at present estimated, owing to the fact that but few vineyardists know its characteris-

ties. By the way, there has been an unusual number of complaints of the increased damages to vineyards by the phylloxera. Considerable alarm is being felt for its effect on the coming crop."

#### VIBRALIONS IN COUNCIL.

The wine interests of Santa Clara county were discussed at the late meeting of the Viticultural Society. Mr. Lees said that he did not think it is the real army worm which is here found, as that is a small worm. This one is another worm, more of the moth variety, or a kind of sphinx. They come in large quantities, but he considered them only a passing evil. They are found all over California, especially this year, and have been seen in this county before. Wherever a bit of waste land or vegetation is found they multiply in large numbers, but they have found their own enemies in numerous parasites, and in time will dis-

Captain Merithew said that there are now in the valley three-quarters of a million gallons of wine, which the owners have offered for twenty cents a gallon, but which is left unsold. There is one difficulty in making wine in such large quantities, such as a hundred or a hundred and fifty thousand gallous, that there are so many buyers in San Francisco who work against it, and by superior opportunities are enabled to sell their wine whether in large or small quantifies much quicker, and the growers are forced to fall back on them for a sale at

Said Mr. Coomh: "I will say this for those who have taken interest in noting the condition of the grape-growers during successive sensons, that they see how necessary it is to have great storage capacity. In Napa, they are independent, and can wait until the next season if necessary. If we had here more wine-making establishments to handle our own crop, the San Francisco merchants would have to bid immediately the full value of the wine, instead of waiting until the last moment to buy, resting ou the fact that the growers will have to sell. It seems strange, considering that so great a return has been given to wine enterprises in the past, that capitalists are not willing to invest more than they do. All of our institutions the past year have made from twenty-five to forty per cent. Capitalists can arrange these matters much better than we can ourselves because they can bandle larger quantities. The northern counties are ahead of us in that their institutions have been establsihed longer.

Captain Merithew added: "We will never be able to arrange these matters until we shall have free importation of brandy to fortify our wines. There is too much red tape about the internal Tevenue business, and it is not systematized perfectly yet. As an instance, I happened to have an order for a package of brandy that I did not have on band. I went to the bonded warehouse to get it out, and it is was six weeks before I could do it. The gauger travels all over the State, and it may be two weeks before you have his services. If we didn't have so many difficulties in the way of making brandy and sweet wine, more of our grapes would go into them, and we could ship it all over the world. These large whisky concerns in the East bave the monopoly and can control it to our detriment."

State Inspector of Fruit Pests Klee made a few remarks concerning the phylloxera, and the meeting adjourned.

#### VINEGAR.

There are good vinegars in the market; there are also those which are indifferent, bad and very bad. The latter are the more common. The best and most wholesome are those made from eider and wine. These retain suggestions of the apples and grapes from which they originally came. If carefully kept they remain palatable for an indefinite period; if carelessly, they, like every good food substance, are spt to become monldy and unwholesome. From a gastronomic standpoint, the best vinegar is that which is made from red wine; next to it are those made from 'white wine, elder and perry. The first is invaluable in salad dressing, on account of its beautiful colorthe second is most useful in those preparations where no color at all is desired; the third is available for all general use, and the last comes to the front whenever the delicious jargouelle flavor is conducive to the culiumy success. Below this first-class are the vinegars made from ale, beer and whiskey. These are coarse, beavy and often offensive. They never, except in the case of whiskey, are made purposely, but represent the desire of some trewer or distiller to utilize goods which have been ruined by careless treatment, and which would otherwise prove a total lose. The ale that sours in the barrels and hogsbeads, the beer that begins to putrify in the vaults, and the wretched whiskey which is so full of fusel oils that no dealer, not even the lowest, will purchase it at any price, are the raw materials from which this class of viuegars is made. They cannot be said to be injurious, but they are simply miserable apologies for the real article. In this country a malt vinegar is made from mashed malt without distillation, but by simply allowing the sugar fermentation to go to an acetic fermentation. It may also be stated that there is nothing equal for domestic use to a good eider vinegar. Below the grade of whiskey vinegar are the vinegars made in the laboratory by chemical processes, and especially by the destructive distillation of wood. Unless skillfully refined and purified they contain creosote, wood tar and other products of the same clase, all of which are injurious, many of which are poisonous, and some of which ure fatal to the user. They have one advantage, and only one-they are cheap. They bear the same relation to genuine vinegar that myrbane oil does to bitter almonds, glucose to pure sugar, sweetened dilute oil of vitrol to lemonade, and lard oleomargarine to reah creamery butter .-British Journal of Catering.

#### PROFITS OF WINE MARING.

A correspondent of the Contra Costa Gazette says: Since the proposition to establish a winery here in Martinez has taken definite shape by appointing a committee to prepare articles of incorporation, there seems to be a very general interest in the enterprise, and I am frequently asked if it will pay as an investment to others than those directly engaged in grape growing. My answer has invariably been that there bas not been a winery in the State conducted on average business principles, and such knowledge of the bnainess as is required by any other class of manufacturing, that has not made money, and my judgment is that there is no business at this time that offere a safer and more legitimate investment of capital than wine making. Here in beat the sixty railroad stations along the Martinez we are especially favored for such | road.

an enterprise. We have the most favorable elimate to be found in Culifornia for wine making and wine maturing. We have the best shipping facilities; we have the most favorable location for receiving and working up the grape crop of the great San Joaquiu Valley, and I believe it will be found that the grapes grown in the San Joaquin Valley will all have to come to the vicinity of the Straits of Carquinez before they can be made into good wines, and Martinez is the first point reached where the combined favorable climate and shipping facilities are found. The organization which we expect to form at this time, will be the nucleus around which will grow one of the largest and I think the most substantial wine making and storing establishments in California, and there is not a farmer or business house or capitalist or mechanic or laborer that will not be benefited or whose interest will not be advanced by belping to establish this enterprise. At the meeting to be held on Friday next, I will be prepared to furnish estimates of eost and probable profit of such a winery as is proposed to found at this

## GRAPE NOTES.

The following extract is from the Rural New Yorker:

The new white grape, Roenbeck, is of very fine quality. It is not bardy at the Rural Grounds. Berekmans is alive to the last bud, Eaton is not injured. We believe that this variety, as a market grape, at any rate will take a first place among blacks. Amber has been dug up and rejeeted. Brighton, Wilder and F. B. Hayes uninjured. Empire State is badly burt in one place, while in another it has passed the winter with little barm. Alice has been injured slightly. Roanoke Neverfall is perfectly hardy. Moore's Early has never been injured. Worden seems hardier than Concord. Lady, unbaraned. Victoria, Carlotta and Rockingham are never injured. Pocklington, Early Victor, Cottage, Ulster. Autoinette uninjured. Our opinion of the Empire State, so highly prized by many, is that it is not the bardiest variety in the

In relation to the Empire State, we agree with the Rural. The one vine of that sort on our place, which last year made a vigorous growth, ripening its wood well, is this spring killed to the ground, though spronting from the root.

# A Long Bridge.

The bridge across the classic Oxus, ou the line of the Rassian Transcaspian Railway, is I,000 feet longer than the Brooklyn bridge. The entire road is a remarkable piece of engineeriog. It was considered impossible to maintain a railroad through the shifting sands of the Kara Kum desert. But General Annenkoff, by covering part of his railroad with clay, by placing in his embankment layers of the branches of a desert shrub, and by cultivating along parts of the route many thousands of the desert plants, the roots of which retain the sand. bas thus far maintained his roadbed withont deterioration. The problem of a water supply was solved by bringing water in pipes from monotains that skirt 200 miles of the route, also by canals from the Murghab, while artesian wells are the source of supply between Merp and tha Oxus. In a region that is destitute of fuel, and where the cold is at timea intense, petroleum has been utilized to drive the locomotive and to

Some or our Southern contemporaries is from the water itself, since sewage is owl about, especially if the cause of comaint exists north of what they are pleased term the citrus belt

Some exception taken by a Northern per inimical for certain personal reasons the Viticultural Commission, afforded opportunity for criticism which our thern neighbors have not been slow to te up. The Secretary of the Commission dertook the onerous and thunkless task compiling a list of the viticulturists in State. In doing so he was totally dendent on the information he could gather mail, from the various districts. Natury a few errors may have crept in, owing the changes which are constantly taking ce in ownerships of vineyards, especially counties where the industry is yet in its ancy. These, however, must be conered trivial, they do not depreciate the ue of the list in a general sense, and do certainly justify such a wholesals denciation, it has pleased our contempores to indolge in.

If an one is to blame it is the vine grower Santa Clara or Riverside, to whom was rusted the task of collecting and warding a correct list of the vine growin these sections.

Persona who are in a position to criticise eisl actions for the public weal, should er let personal feeling interfere with justice that is due to all.

iticulturists who notice any errors in ir particular districts are invited to send ote of them to the Secretary of the Comsion, who will have corrections made in are editions of the directory. By this ins the list will be rendered as perfect as originally desired by the compiler, who to labor against many disadvantages in ecting the original data.

#### IMPURE ICE

end Ice Liable to Contain Disease Germs.

he danger of an impore ice anpply has n the subject of a very thorough investion by the Masschosetts State Board of Ith, which attributes many cases of noid fever occuring in cities in Autumn, ad water and the results of had drainor none at all, in the summer resorts. board, therefore, urges upon people are considering the question where to ad the aummer, the importance of cting places which have proper drainand pure water supply. In places re ponds are made for the purpose of cting water for a supply of ice, it is est certain to be contaminated with ige, as freezing does not kill but only eals bacteria. A most mysterious case holesale poisoning at a summer hotel finally traced to the impure ice which been secured from neighboring shallow la. Upon snalysis the melted ice was d to contain in anspension, a large ritity of decomposed vegetable matter. organic matter mostly settled at the om of the vessel, but the lighter matter ined diffused through the water. The , the source of supply, was examined found staguant, and at one end s seent mass omitted an intolerably vive odor. It was reasonably sup-l that the ice was the cause of the cass, and upon its disuse the epidemic eas, and upon its disuse the epidemic d. Prof. Raphael Pumpelly, who investigations for the National Board with, has no doubt that ice can carry udisease that the water from which it is not a convey, and that there is more danger from the ice than there

e lost, if they cannot find something to more easily decomposed in summer than in winter. While in cities the greater part of the ice received is pure, in towns where the supply is taken from shallow ponds, both the water and the ice may be a source of dauger .- American Analyst.

### TILDEN'S RARE WINES.

NEW Yoak, April 17.-The catalogue of Samuel J. Tilden's wines was sent to-day to a number of wealthy connoisseurs. The cellar is estimated to be worth \$20,000. In the list are five cases of Johannisberger, blue seal of 1865, which, when obtainable, retails at \$12 a bottle.

There is also a case of 1862, six bottles Cabinet 1862, bottled in 1865, and five bottles 1870. There are also 300 bottles of Steinberger, Cabinet Imperial, 1868. One of the finest wines known to the trade and that which goes by the same name aells at fashionable resorts at \$14 a bottle.

Then there is a large case of Grand Vin Chateau Lafleur Monopole of 1574, a case of Chateau Iquem of 1858, and two cases of Chateau Lafitte of 1864. The Madeiras are exceedingly rare and cannot be secured in the trade. There are 99 bottles, ten being the old reserve of 1817, and one Craw ford of 1826. The liquors include a barrel of Kentucky whiskey, two demijohns of Bourbon, fifteen bottles of rye, twelve of brandy, ten jugs of Schiedam and two bottles of cider-brandy.

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#### THE NEW RAISIN PACK.

In a few days, probably the first of mext both fruits and raisins, week, the large canning and packing establishment of Geo. W. Meade & Co. will com- about the buildings that have been deserted mence operations. At the start the force of for almost a half year. Some idea of what hands employed will be small, but as the the firm expects to accomplish in the way season opens up it will be increased until a of a pack this season may be gained from force fully one half larger, if not double, the fact that lately Raymond Docckal closed the size of that employed last year, will be at work. This year all the driving will be done out in the country about two miles from this city on the line of the new eastern branch of the Southern Pacific. This will will enter into direct competition with the give the firm the use of the entire plant foreign pack. There is every prospect of here for packing purposes, and every inch there being a large crop of splendid grapes of space will be used. Several new and im- this season, and if such is the case Meade proved machines will be put in place, an I the firm will make an extra effort this year shipments cannot touch, either in size, to pack and ship only the very finest finits, color, flavor or style of package.

especially rusius, although they will as heretofere pur hase all kinds and grades of

Already there are signs of life around a contract with Mende & Co, to unil 4 M), (MH) bex s duri g this season.

As stated above Meade & Co. propose to pack specially fine grades of raisins, and & Co. will put ap raisins that the foreign

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This peat has become troublesome in some vineyards, especially so where there are young plants. Mr. S. W. Kilpatrick, who is in charge of Henry Miller's extensive orchards and vineyards in this section, assures us that a very simple, inexpensive and efficient remedy can be found in the ass of concentrated lye. Mr. Kilpatrick recommends that two small cans of concentrated lye be dissolved thoroughly in one barrel (40 gallons) of water and this mixture sprayed upon the leaves and stalks of the vines, care being taken that the spraying shall be done so lightly as not to break off or injure the foliage by its force. The work should be done before sunrise or some time after sunset. By placing the barrel npon a light hand-cart it would be an easy matter to spray many acres in a few hours and at a very inconsiderable expense.

Another formula suggested by Mr. Kilpatrick, but which he does not recommend so strongly as the foregoing, is to dissolve one pound of sulphur in three gallons of milk taken from the fire at the boiling point; mix with this two quarts of kerosene, atir the whole thoroughly in one harrel (40 gallons) of water, spray with the mixture in the same manner as recommended with the concentrated lys .- Güroy Gazette.

VINE-GROWERS in the Livermore Valley, the Herald says, are introducing a weed cutter which saves a great deal of labor, and does very effectant work. The cutter is a steel kuife, which passea along between the rows two or three inches below the auriace of the ground, and cots out the weeds. This knife is usually bolted to a piece of scantling, on a level of 45 degrees. It may be attached to the rear of a cultivator or a clodmasher, or set in a light framework. It is a cheap and valuable tool, and some of the growers buy a piece of steel and make it themselves.

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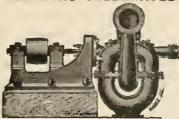
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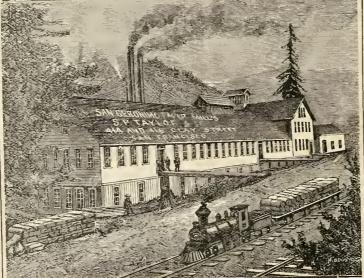
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	For Martinez, Vallejo, Santa	6 15 r
	8.30 A fast Mail for Ogden and East	10.45 A
l	9.00 A Galt, lone, Sacramento,	5.45 P
	9.00 A Galt, lone, Sagramento, Marysville and Rei Bluff	
	9.30 A (Los Angeles Express, for Fresno, and Los Angeles, Control of Fresno, and Los Angeles, Control of Fresno, and Kiles	12.15 P
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1	* 2.45 P Creek, and Santa Cruz    For San Jose, Felton, Boul- der Creek and Santa Cruz	• 10.50 A
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	NORTHERN DIVISION (FOURTH AND TOWNSEN	D STREETS.)
-	7 15 All For Menlo Park and Way	2.30 P
	Hantarey and Santa Cenz l	1 8.35 P
	For San Jose, Gilroy, Tres  Excurrion  For San Jose, Gilroy, Tres  Pinos, Pajaro, Anta Cruz  Monterey, Salinas, San  Miguel, Paso Robles and  Temple ton (San Luis Ohis-	
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VITICULTURAL PAPER IN THE STATE. THE ONLY

Devoted to Viticulture, Olive Culture, and other Productions, Manufactures and Commerce of the Pacific Coast.

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# WINE.

CONNECTION WITH THE TEMPERANCE PROBLEM.

Writing in Pomeroy's Advance Thought, E. W. De Knight says:

Contemplating the wine interests of the Inited States, it appears surprising when he fact becomes apparent that so large a portion of our pupulation care so little to nquire into a matter involving such imortance, fearing that by so doing influences vif to themselves may follow. The result s that this great majority remain in entire gnorance of the subject, a condition the outgrowth, it may be safely asserted, of the omewhat hissed, il iberal teaching of the dvocates of prohibition, who, knowing nothing of the virtues of pure wine, speak of its evils only and condemn it along with biskey and other strong alcoholic drinks s a curse to man and a burden upon so-

It may be well to remark here that no lesire whatever is coveted to assume a stand in contraposition to temperance, or to rage any attack upon its doctrines and orinciples. The object of the views about o be inscribed is to increase rather than liminish the fruits of temperance, and to aggest what seems to be a most plausible olution to the problem and aid to the ause. No disrespect is intended, therefore, n referring to the exponents of prohibition n the manuer used above.

In the first place, the prohibitionists of bis country do great injury to the work hey have in hand, and much wrong to everal exceedingly worthy interests, by stablishing as a foundation the principle hat all beverages containing alcohol, no natter whether they be fermented or disilled, should be boycotted by the people nd legislated out of existence by the genral government. This is a grievous wrong. t evinces a want of liberality on the part the prohibition element, who, above all, hould be honest and just in their judgnents, and not inclined to too hastily brand with the seal of condemnation all that which, on first introduction, seems to smack tha bed. Generosity in all things is the tandard to be followed. As individuals, ne of the most desirable and bleased faculee wa can be gifted with is a liberal, the government. Not that the pure pro-road-minded, generous disposition in feel- duet of the vineyard should be levied upon Fermented wines are of the lighter class, gles, and send a glow of cheerfulness cours-

ing, thinking and acting toward all people and things, and especially toward questions in which a decision is to be attained. No canse, no reform, nothing ever triumphed without the observance on the part of the reformers of a kind, magnanimous spirit in dealing with all opinions and beliefs; without wilfingly and respectfully lending the ear to every hue and cry borne to it upon the four winds; and without carefully weighing and impartially balancing each argument, every right and every wrong. It is for this reason that the prohibition workers and temperance expounders should be less given to hasty condemnation, and more progressive as educators to the good that follows a life of temperance.

The most worthy interest which these illiberal statements injure and misinterpret is that represented in the cultivation of the vine for the manufacture of wine, an industry concerning which but little knowledge exists among the people generally, save in California and certain portions of the Southeastern States, New York and Ohio. Nor can any one reap any conception of what the wine interest is, and implies and promises until by some opportunity or circonstance he be brought into the immediate presence of one of the wine districts of our own country, such as one finds in California, the vineyard State.

California is a grand country, of exceeding richnes in natural beauty and advantages, and a progressive State of large cities, many people and great wealth, with numerous extensive growing interests, the most characteristic of which is the manufactore of wine, which, if not now, will in the course of a near foture evolve into the most important industry and factor in trade and commerce. The two distinguishing features of California as allied to the commercial world, are its fruit raising and wine making. No State can boast of such quantities and size of fruits, abundance of flowers, glorious climate and bnovant air, lovelier, blue skies, or a people more big-bearted and liberal natured than greet one on en tering California.

THE CULTIVATION OF THE VINE

in California for wine purposes has gradually grown in recent years to proportions which demand for it not only protection as far as possible by the State, but the most liberal encouragement and protection by

and taxed for the raising of revenue-for the obesity of the treasury is now such as to excite apoplexy in that direction-or stiflying the industry, or that it should be stamped in a manner similar to whiskey and tobacco, as a luxary only spitable for taxation and unfit for popular usage. Se soon as the people begin to recognize the difference between light wine and whiskey and understand the virtues of the first as compared with the latter; so soon as they permit themselves to investigate the matter and not back away from it as does a balky horse at sight of a locomotive; so soon a they derive some knowledge of that which they ignorantly ery out against, so soon will they materially aid rather than injure the temperance movemove. Whiskey is the most powerful enemy with which temperance has to contend. Wine is also considered an enemy, but of lesser degree than whiskey; but is wine, in fact, an element ot intemperance? Let us see. But here again it is welt to tarry and define the meaning of the word wine. As applied by a great majority of persons, it includes all that intoxicates, and everything leading up to dissipation and the bad. The most vital point, therefore, to be reached in treating a matter of such moment as the liquor question is to determine the distinction between pure light wines and the heavier wines and whiskey. It is upon this point that the solution of the question haugs and an effort toward defining which will be made in what is about to follows. Wine, from the beginning of history, has been the chief beveraga and stimulant of mankind. In certain stages of its manufacture a small libation will intoxicate. In these remarks, however, wine is treated upon only as it is need as food, and this is the central point aimed at and the chief argument claimed. By the word food, therefore, such wines as claret and white light wines are inferred. Claret, or red wine, is the universal drink of France, Austria, Germany, and every European nation. In this connection it may be well to recite the points of difference between clarets and atrouger wines, auch as sherry, port, some sweet wines and brandies.

Claret and most white wines are the lightest of wines. Claret contains about eleven per cent. of alcohol; awect wines, twenty-five per cent. or more, and stronger while heavy wines are distilled. For intance, claret is produced by fermentation, in the same manner as beer, ale, etc., the sugar in the extracted grape juice being turned into alcohol, which acts as a preserver of wine as it ages. Now, in tha case of port and heavy wines, the mode of production is by distillation. The distinction, therefore, between claret and sherry and port, and such strong wines, is easily recognizable-the first being fermented and the latter distilled. Sweet wines contain more alcohol than do sonr wines or claret. Claret is not stewed, boiled, or manufactured ioto what it is. Whiskey, on the other hand, is a vile combination manufactured through the process of distillation, and contains more alcohol than any other spiritnous liquor. Claret-light red and white wines-is simply the pare juice of the grape, which, when left alone for a day or two, is worked upon by the forces of unture, the saccharine matter being transformed into alcohol, which acts as a fortifier, and leaves the liquor a sour wine. The alcohol thus formed composes not a teuth part of the entire body.

Beer is not as healthy a drink as claret. Beer has tendency to bloat. Claret has not. Dr. Guyot, the French physician, wine and continuing stimulants of the nerves, the muscles and digestive functions." Dr. Ludwig Gall, the renowned physician and chemist, in treating of the points of diff rance between red and while wine, remarks that 'fin Northern temperatures man requires in his drink something that quickens his blood and promotes its circulation, rather than a astringent; and this is done by alcohol in its diluted state, such as we find in good wines." In the sense of this paragraph, therefore-as a learned writer on this subject has observed-eighty per cent, of our American population, how are of a Southern constitution, used a drink rather than a stimulant-and claret is not a stimulant.

What shall we drink? is the great problem sgitating the people of this country. A drink that wages no harm, as do mean whiskey and strong elcoholic liquors, that can be had freely, and is within the reach of the poor as well as the rich. It is the hard worked, laboring man in the United States who stands in such danger of the demon alcohol; it is he who feels the want of something to stimulate his wasted enereach night from his daily toil. There is something he hungers for, something lack-.ug, something needed to rejuvenate him and lighten his depressed spirits. And how does he attempt to fill this void, to appease this craving, and bring relief to this malancholy state? By deserting the circle about his heartstone and resorting to the beer garden, or, rather, more often to the whis-

This is the question which confronts the good people who are seeking to purify and elevate humanity. It is not the wealthy who need assistance so much. The laboring class is the element most to be sought after; and to supply in the natures of these people that which seems to have been crushed out, that which will make them more contented and less inclined to desperate attempts at reaping pleasure which, under such circumstances, too frequently assumes the form of dissipation, is the remedy to be ascertained and applied. If this be the acknowledged condition of affairs, some factor must be found to destroy this prevailing appetite which sinks men so low; and no passing of laws, no amount of intellectual training, no powers of persuasian will tend more toward creating such a factor, than the dawning and inauguration of the period when the use of light, undistilled wines will be nuiversal, when their consumption will be encouraged, and when the people perceive the good and the benefits to be derived from such a course. Such a statement may seem bold and rash; but permit the proposition to conl a little and feel how refreshing it is. From what has been previously delinested, it is quite clear that wines of the claret order are not powerful alcoholic beverages, are not stimulants, and are but the pure, natural product of the grape on being pressed. It has also been demonstrated that the use of such wines deprives one of the appetite for strong, exhibarating, stimulating drinks, by incalcalating in the consumer a natural, steady and continuing buoyant condition. Such wines do not cause intoxication-nuless imbibed in quantities measured by the bucket-full-and are not inclined to lead to dissipated habits. Therefore, and finally, the fact remains undisputed that the use of wins as a food, and only as a food-and herein is concealed the underlying principle of the whole question-in daily use at the table of every home and family, and especially among the working people, will do more toward shedding sunshine and happiuess into the many dark corners marring this busy, throbbing, every-day life about us, more toward enhancing sobriety, by holding away from the companionship of the saloon keeper, the husband and brad of the family; more toward creating kind dispositions, clear heads and good citizens, and more toward advancing the reform of temperance, than to continue in the narrow path now traveled by public opinion, and and to pursue the unjust, fanatical dogmas of the great body of temperance expounders who, without limitation or charity, tirade against, denounce and banish from their presence everything possessing a savor or color of wine. There is no more plausible or rational solution to the temperance question than the proposition herein laid down, for so long as there are beings whose natures have been warped by the uneven balaucing of the work and recreation, and whose passions and appetites, because of auch perversion, must need often be fed and

be unhappiness, misery and drunkenness with which to contend.

### AUSTRALIAN VITICULTURE.

On Wednesday, the 21st inst., a lecture upon the grape vine was delivered in the Technical College Hall, Sydney, by Mr. David A. Crichton, for the Board of Techuical Education. There was a large and attentive audience; and the subject appeared to be a very attractive one. This was the third of a series of lectures upon fruitgrowing delivered by Mr. Crichton, who treated his subject in a thoroughly practical way, at the same time making his remarks as interesting as possible. The lecturer began by giving some interesting historical particulars concerning the grape vine, which except the fig, is the oldest fruit ou record. In the Bible the grape was frequently mentioned; and we were informed that Noah planted a vineyard and made use of wine, By the early Hebrews, Egptians, Greeks, Romans and other aucient natious the grape appeared to have been popular, and generally cultivated for wine. Later on the cultivation of the grape spread to all the countries bordering the Mediterranean, and has ever since continued to be a prominent agricultural industry. In England, also, from the 10th to the 14th century vineyards were said to have been common, as they were frequently mentioned in Doomesday Book and other old records. When grown under favorable conditions the grape vine would attain a great size and age; and there were records of vineyards in Spain, Itsly and Greece which had been productive for over 300 years. In mudern times there were several instances of graps vines attainiug's great age. The celebrated Hampton Court vine in England (planted in 1769), when over a century old covered over 2,000 feet of wall space, and produced over one tou of grapes annually. Another celebrated English vine at Valentines, in Essex, planted in 1758, attained a still greater size, and when more than a century old yielded, in one season, over 2,000 large bunches of grapes.

These instances, the lecturer asid, showed that the vine was naturally a very lunglived and productive plant, and that when well managed vineyards would last for long periods. It was nothing but faulty treatment, either in the preparation of the soil or the after management of the plants, which caused so many vineyards to fail early, as they often did in this part of the world. If treated rationally vines will be as long lived and productive in Australia as in any other part of the world. In In Europe the grape was successfolly grown for wine up to the 51st degree of latitude. But in southern regions the limit was about 30 degrees. As regards altitude, the highest point in Europe where the viue was grown successfully for wine was 3,000 feet in Spain, the limit at Teneriffe was 2,500feet. Though the vine would grow freely, and bear heavy crops, in latitudes and altitudes higher than those named, yet the fruit possesses more acidity than in warmer regions, and was unfit for making wine. On the other hand, in the tropics there was too much heat for wine making, as the juice began to ferment hefore the berries were ripe.

The lecturer said that New South Wales was as favorably situated for the production of wine as any country in the world. satisfied, and there is whiskey and like un- soil that we might produce wines of every yield.

ing through his veins on returning home hallowed material to feed them, there will class favorably known in Europe. In our warm inland districts we could produce heavy strong wines like the port and sherry of Portugal and Spain; while in the higher and coast regions we could obtain such wines as Challis, Hock sud Claret, equal in quality to what was obtained from France and Germany. Before long colonial growers would doubtless be able to develop a large trade in wine with Great Britain, and there was also a considerable local demand which, as yet, was not nearly supplied. Last year we imported into New South Wales 20,650 gallons of sparkling wines value £36,047; 175,244 gallous of still wines, value £64,531; and 339,925 gsllon, of brandy, value £182,519. The total value of the wine and braudy imported was £637,789, every pound's worth of which might have been raised in the culony Growers, however, if they wished to increase their home and export trade, must be careful to produce good articles, as much of the colunish wine now produced was decidedly inferior.

> Mr. Crichton strongly advocated that more attention should be paid to the drying of grspes, as there was a large local demand for raisins and currents. In South Australia, grape drying was already a well established industry, and large quantities of raisins and currants were sold in Adelaide. In California, a country somewhat similarly situated to New South Wales, the raisin making industry had assumed largproportions. The lectorer said that the grape vine was hardy, and would do in a variety of soils, and might even be planted in localities where no other crop would succeed. Like other cultivated plants, however, it would thrive best under liberal treatment. In preparing for vines the soil, when practicable, should be deeply worked; and provision should be made for effective drainage, if necessary, as the planta would not thrive with water stagnating at their roots. Such matters as pruning, training, the treatment of insects and diseases were next dealt with by the lecturer in a thoroughly practical way; and he concluded by giving selections of varieties suitable for different purposes. For raisin making he said that special thick planted varieties, such as the Muscat of Alexandria and Muscat Hambro, were required. A selection of table grapes should include anch varieties as hore freely, and produced large and showy banches of well-flavored berries. The selection should also include early, late and medium varieties. In making a selection of wine grapes, growers must remember that earliness, lateness, color, size and appearance were qualities of no consequence; the only requirements to be considered being quality and productiveness.

## WINE PRODUCT OF SANTA BOSA

Included in the report recently submitted by Captain Guy E Grosse, Committee on Statistics, to the Santa Rosa Board of Trade, is the following carefully compiled table, giving the amount of wine and brandy, manufactured in that city and township during the year: I. DeTurk, wine 200,000 gallons; brandy 7,000. J. Metzger, wine 40,000. Armstrong & Dohn, wine 30,000. E. W. Davia, wine 100,000; brandy 2,500. Buckner Bros. & Requa, wine 10,000. T. L. Harris, wine 160,000; brandy 1,690. Burnham, wine 37,000. Mrs. Leveroni, wine 20,000. Total number gallons of wine, 597,000, and of brandy, 11,100. There was so wide a range of climate and Last year was far below the average grape

#### BEET SUGAR MANUFACTURE.

According to Clane Spreckles we are going to become beet sugar producers ourselves. "We may and then again we may uot." As Shskespeare (or Bacon) said: "We know what we are, but not what wa may be." We are in the habit of thinking that Germany has been a great sugar producer for a long time, but it is not so very tong since the industry was pretty small potatoes-or beets-in that country. In a recent report by Consul Warner, of Cologne. it is stated that in 1871-72 only 18,000 tons of beet sugar were produced in the whole German Empire, while in the sesson 1886-87 over 87,000 tous were manufactured, and it may be possible that Mr. Spreckles will suske such a showing of the beet sugar capabilities of this country that in ten or fifteen years we shall be turning out such manticies of the stuff as shall, from the very magnitude of the business, impress the b holder, whose mand is free from acquaintance with growth of the industry, with the id-a that we have been in the beet business ever since we were born.

The German manufactur rs are still inent on improving their processes. Consul-Namer says: "The improvement made in he campaign year 1886-7 in the technical vorking in the manufacture of beet sugar vere mainly in the dir ction of simplifying he separation and purifying processes and is also in the saving of material and work, Especially the treatment of the jaice with sulphuric acid found great use, and improved methods of filtration were more frequently adopted, while the use of bone coal has almost been given up. In the campaign of 1886-87 147 factories (against 162 the preceding campaign) prepared from molasses sugar, of which fifty-five worked with the osmose process. But in consequence of the low price of sugar and the proportionate high cost of molassea, this procesa has not found use by a number of the factories supplied with the required apparatus on account of its not being sufficiently remunerative."

The diffusion process of extracting the juice is nearly universal, it being used last year in 397 of the 401 factories in the country. Fifteen years before the press process was employed in 216 factories out of the 311 in existence at that time. The problem of extracting seems to be solved by the perfection reached in the diffusion method, but in the separating and purifying part of the process of manufacture nu ona method has yet succeeded in driving out or superseding several competing processes. The consul names several methods-the osmose, the elusions, the substitution, the precipitation, the elimination, and tha stroutium-and gives the number of facturies using each process in the seasons from '82 to '87. Only about half as many factories used the cosmose process in '87 as in '82; the elutions method a little more than held its own; the number using the substitution plan has not varied in the last three seasons and was greater than in 182; the precipitation process was less in favor than it had been; the elimination method had grawu steadily in the number of factories using it; while the strontium appeared first in '87 and was used in four factories. From this it appears that the process is yet to be discovered. Perhaps it is reserved for this country under the lead of Philanthropist Spreckles to give the ne plus ultra process to a waiting world .- St. Louis Grocer.

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#### VINEYARDS OF CAPAY.

That the foothill lands in Capay valley are peculiarly adapted to the successful culture of wine grapes is evidenced by the vineyards already in bearing there. The industry has passed beyond the stage of experiment, and it has been demonstrated that a better quality of wine grape can be produced here than in almost any other portion of this country. Soil and climate seem to happily combine to produce this result. The French experts, Messrs. E Ln ion and T. Rossiand, who, in making an examination of the soil of the valley, had specially in view ita adaptability to the culture of wine grapes, prononneed Capay valley in all respects preferable to Napa valley for this purpose. This is testimony of the highest character, but it would not be needed to convince anyone who has made a personal examination of the vineyards now growing in the valley.

Upon the tracts purchased by the Capay Valley Land Company, there are five vineyards, all showing a fine growth, and demonstrating by their productiveness and the quality of the fruit, the adaptability of the soil and climate. The largest covers 126 acres and is located midway between the towns of Guinda and Rumsey. It is situated on what has been known as the Levy tract, comprising 690 acres of splendid land. It is proposed to cut this tract up into three pieces, so as to give each purchaser a good-sized vineyard in bearing and s fine tract of land suitable for the cultivation of either fruit or cereals. The land will be so subdivided that each purchaser will have a frontage on the county road, where he can build his residence, having his trees in front and his vineyard back of the house, towards the hills on the southeast. The vines on this place are three and four years old, and will this year produce over 200 tons of a fine quality of wine grapes, most of them being of the Zinfaudel variety.

This tract could be subdivided so as to give twenty-five acres of vineyard with fifty acres of the unimproved land. It will be sold on long time, at a low rate of interest, and is one of the best investments offered in the entire valley. The vines have never been irrigated, and will never need any irrigation to insure an abundant and nevertailing crop.

Another splendid illustration of the adaptability of the soil and climate of the Capay valley to the culture of the wine grape is the celebrated Orleans vineyard of Arpad Haraszthy, which is located in the foothills a little south of the entrance of the The vineyard comprises 150 seres of old vines, from twenty to twentyeight years of age, and 150 acres of new vines, four years old. Twenty two acres are of Flame Tokay, splendid shipping grape, which ripens much earlier here than in any other part of the State. Madeline, another of the varieties produced here, can be marketed by the Fourth of July.

There is a winery on the place with a capacity of about 300,000 gallons. The wines made are principally the Orleans Biesling, a white wine of high quality, similar to the best Rhine wines; the Zinfandel claret, which has a great resemblance to the finer clarets of the Bordeaux district in France, and is remarkable for its bouquet and the Burgundy Rose, which has a high flavor and strongly recalls the best products of the Burgundy district. Last year wines were also made from the Semillon, Sauvignon, Folla Blanche, Verdal Mataro,

Tannat and other varieties, for use in blending.

On this estate there are also growing some 600 olive trees and several hundred prune, persimmon, almond, orange, lemon, English walnut, and chestnut trees, all of which grow lunniantly anywhere in Capay valley.

In considering the future of the wine industry of Capay valley, it will be interesting to the reader to know something of the present condition of the industry in California. Mr. Ben C. Truman, a competent authority on wines and grape culture, wrote a series of articles during the year 1887, which presented a vast amount of reliable information on the subject. We take the following data from a summary of his articles:

On January 1, 1887, there were 91,043 acres of wine-growing grapes in California, composed of the "Old Mission," the grape introduced by the Franciscaus 100 years ago; the Zipfandel, introduced by Colonel Agoston Haraszthy, some sixty-five years afterward; and (subsequently) all the choice varieties of Germany and France, and other countries, prominent among which are the Carignane, Grenache, Ries ling, Golden Chasselas, Cabernet Sauvignon, Sauvignon-vert, Cabernet Franc, Bur ger, Trousseau, Merlot, Pinot Rose, Petite Boise, Black Burgundy, Mataro, Chauche, Noir, Meanier, Tannat, Semillon, Charbono, Malbec, Colomoar, Moselle Riesling, Folle Blanche, West's White Prolific, and a great many others, and that there were probably at least 5,000 acres of new cuttings put out in 1887, which will give about 100,000,000 vines in all.

The wine making interest represents a capital of about \$68,000,000, and gives employment, directly and indirectly to 90,000 men.

Only as far back as 1880, the annual wine yield was but 5,000,000 gallons, while the production in 1886 was 19,800,000 gallons; and the shipments of wines to Eastern houses (which includes all points east of the Missouri and Colorado rivers) during 1856 amounted to an increase of 1,600,000 gallons over the wine shipments of 1885; or an increase export to all points outside of California of about 2,000,000 gallons of wines during 1886 over that of the year preceding.

Wine-making in California has passed the experimental stage, and great progress has been made in planting, pruning, gathering, crushing, fermenting, handling, storing and ageing, while the climatic conditions and richness and varieties of soil give to California wine makers superior advantages which will enable them, at no distant day, to generally place better and purer light dry red and white wines and much purer sweet wines on the American market than either Germany or France.

Ten years ago very few epicarean Californians indulged in their own wines, especially in their clarets, sweet wines and champagnes, but during 1886, Californians drank 1,200,000 gallons of their own white wines, 2,500,000 gallons of red wines, 700, 000 gallons of sherries, ports, angelicas and muscatels, and 12,000 cases of champague, as against 7,000 cases of imported champagnes of various brands, 60,000 gallone of French and other foreign dry red and white wines, and not enough sweet wines to mention, while only a few years ago Californians drank 900,000 gallons of dry and sweet European wines, and from 14,000 to 16,000 cases of foreign-made champagnes annually.

About one-eighth of the 19,800,000 gallons of wine made in 1886 has hern transformed into brandy, and as the increased demand for dry wines—the proportion of reds and whites being about as two to one—enters largely into every business man's mind, the production of sweet wines generally is considerably restricted, and ports and sherries will be hereafter less pleutifully made—that is, for two or three years to come; those on hand will be satisfactorily aged, and fine selections will be hereafter stiffly held.

Some years, as in France, California produces exceptionally fine wines, and experts cannot fully comprehend the caus-It may be the result of a combination of atmospheric circumstances, such as au entire absence of elemental distorbances. etc., which no mind can fully penetrate or disgnose, Thus, 1876, 1878, 1880 and 1884 were exceptionally good years, and the wines produced during those years were pre-eminently excellent-so much so that the abandant crop of light wines of the latter year gradually found its way into the hands of the trade and was well appr ciated, The wines of 1856 and 1556, however, are rich and full in body and color, but they are developing slowly, and will be late, therefore, in entering the market for general consumption.

Some ten or twelve years ago, great numbers of grape growers tore up their vines and planted their vineyards in fruits, etc. There was no sale of or demand for California wines at home or abroad, comparatively speaking. Since then, partly on ac count of the increasing excellence of and demand for California wines and partly on account of the prevalence of so much phylloxera in France as to compel the wine makers of that country to send out all sorts of made-over and adulterated California, Spanish and Greek wines and mosts and other spurious imitations of Bordeaux productions, all fears of over-production have passed away. To make himself sure of this he wrote to a wine making friend who tore np forty acres of vines in 1875, and he replied: "Great fear and apprehension have heretofore been entertained of over-production. The steady increase of our vineyards, productiveness of soil and climate, threatened to overbalance the healthy equilibrium of supply and demand. But in spite of prohibition and fanatical temperance agitation in some of our States and the reinciance of Congress to protect pure wines against imitations and adulterations, we are making progress in every direction-we carry no surplus of accomplated stocks-our vineyardists are as active and stirring as ever, and we are confident of continued success. Lower prices, cheaper rates of freight, a very noticeable change for the better in the average quality of our wines, and, above all. their indisputable purity-all these facts will act as powerful agents towards a rapid extension of our market and the general distribution as d introduction of California

Careful exumination convinces him that all parts of California make or can make good dry and sweet wines, and that even the Mission (which has been so severely matigned,) and the Zinfandel (which is not so much a favorite at present as it was 20 years ago) are capable of producing clarets of good quality, especially if used in blending and properly handled and aged.

The coming clar to will be blended ones, for it is the skillful blending of choice

wines, each one of which in its If possesses som variab · quality, which produces a beverag containing body, color, tannin, aroma and bouquet. Again, these blends must be adapted to the different conditions of soil and climate, and often to peculiarities of viutages. For example, 50 per cent. of Zinfaudel grown upon the hillsides of Schools county in 1886, and 20 per cent. of Mataro, 20 of Tannat and 10 of Verdot, all grown at different elevations from that of the Zinfandel, constitutes a splendid claret, aggregating body, color, astringency, aroma and bounget. In Napa, a certain per cent. of Cab rnet Sanviguon to three or four other choice wines would give a beverage that, with proper age and manipulation, would closely crowd Chateau Latour for general excellence.

"There are many pure wines," said Mr. Haraszthy a few days ago, "and especially elarets, that are often barsh to the taste and uninviting to the eye. Hence arises the necessity of blending. The first consideration in making claret is the color. A de p ruby tinge is desirable, and to obtain it dishonest dealers stop at no adult-ration short of ont-and-out poisson. If no one cared for color, which is really of no true consequence, the greatest temptation to resort to aniline dyes and other adulters. tions would cease to exist. A light-colored claret would not sell in New Orleans at all; and as the people there want cheap wines they got them from honses that buy up new wines from a single grape, and dose them to suit the Creole eye for color slone. It requires either age or blending, or both, to make a perfect claret of acceptable color, delicate flavor, requisite body, a good amount of natural tannin, and a proper absence of sugar. In a word, a perfect claret should go between 11 and 12 per cent, strong, of good color, good amount of natural astringency, and have an odor, a perfume, savor, flavor and aroma, and possess durable qualities. Without resorting to blending, even great ag ing would fail to produce such a wine. There is no reason to doubt that in course of time our wines will not only be known as purer and better than snything imported, but that they will become as famous and command as good prices as those of the most celebrated vineyards of Germany and of France.

These remarks are especially pertinent to the subject in hand, because in Capay valley no artificial irrigation is necessary, which is one of the reasons for the dryness and exquisite aroma of the wines produced there. Every known variety of grape can be grown there in perfection without irrigation, this giving the most smple opportunity for blending without sending the wines to some large city to be blended with the products of other localities, during which process they may be adulterated. wine maker of Capay valley will be able to send out wines, under his own label, with the certainty that they have not been tampered with, and can guarantee their absolute purity. This will give them a standing in the markets of the world, and be will resp a rich reward. It is because of this opportunity that certain brands of French wines have acquired a reputation upon which the wine merchants of the world will hay them almost without examination of the goods.

When all the favorable conditions surrounding this beautiful valley are taken into consideration—the climate, soil and transportation facilities—there can be no doubt that it is destined to become one of he most noted wine districts of the world, and the time will come when its products will not only be known throughout the United States, but will be found upon the tables of Europe.

#### BRANDY DISTILLATION.

The following is the text of an order recently issued from the office of Internal Revenue, Treasury Department, at Washington;

To Collectors of Internal Revenue.

When a distiller of sprits from grain or molasses is notified of a proposed assessment under Section 3309, Revised Statutes, and he has reason to believe that the liability in whole or in part has been caused by an unavoidable accident or by a misunderstanding of the law and regulations, and claims relief under Section 6, Act of March 1, 1879, as amended by Section 8, Act of May 28, 1880, affidavits will be required from the distiller, storekeeper, gauger and other witnesses, if any, fully setting forth the facts and the extent to which the actual product or the required capacity has been affected by accidents or misnaderstanding. These affidavits should be sent to the Deputy Collector of the division in which the distillery is located, who should diligently inquire into, ascertain, and state the facts in the case, give estimates of the amount of loss, if any, of spirits occurring by unavoidable accident or misunderstanding of the law and regulations, certify to the same, and transmit the papers to the Collector, who will then write out his opinion of the evidence in the case, with his recommendation as to omitting the proposed assessment or any part thereof, as may appear to him equitable and just, and then forward all the papers with his opinion to the Commissioner. A strict compliance with these instructions may avoid the calling for additional papers.

Collectors are expected to keep in their respective offices the evidence that grain and molasses distillers have been, prior to assessment, notified of the liability for excess, or deficiency, or for both, as the case may be.

### FRUIT-BRANUY DISTILLESS.

Explanations of distillers of brandy from apples, peaches and grapes, intended to show why assessments certified on Office Form 145 should not be made, often show that greater care should be exercised by them in operating their distilleries under the Internal Revenue Laws.

It is sometimes alleged, for example, that but one still has been used, while the distiller is charged with the capacity of two stills. Upon examination it is found that the two stills have been registered (Foroi 26 for use and that the distiller had not afterwards registered one of them not for use (Form 27,) nor made application on Form 143 for reduction of capacity. The records of this office, therefore, show the capacity of the distillery to be the capacity of the two stills as shown by the survey, and not merely the capacity of the one still which the distiller actually used. The law, moreover, requires the Commissioner to assess the tax on the deficiency in production below eighty per cent. of the capacity as fixed by the lawful survey-that is, in this case, on the deficiency below eighty per cent, of the surveyed capacity of the two atills. Collectors will please call the special attention of their deputies and fruit-braudy distillers to this matter.

Another requirement of the law appears the fraud, but alcohol, turn to have been frequently overlooked: The zine will wash off the color.

law requires the Commissioner to determine the deficiency taxes monthly; and as the time operated by fruit distillers each month is arrived at by aggregating the hours run and deviding by 24, counting the remainder as a whole day, it is advisable for such distiller to operate such a number of hours each month as will be exactly divisable by 24. This can be accomplished through the exercise of a little forethought.

Many distillers claim that the failure to produce the required capacity is due to the use of inferior, greeo, or over-ripe fruit. The distiller who uses poor materials, whether grain or fruit, does so at his own risk.

It is also expected of distillers that they shall use good machinery ond apparatus. The fact that a tab or a still is leaky is not of itself a sufficient reason for omitting an assessment for deficiency. Fruit distillers should take special care to see that all vessels to be used are made water-tight, and are put in thorough repair before the commencement of the distilling season. These precautions will, it is believed, greatly lesson the occasion for making assessments caused by loss of cider, singlings, or other materials.

If, however, a distiller is notified on Form 245 of any deficiency, he should ut once sign the paper, in presence of a wirness (who should also sign), and return the paper to the Collector. If the return is not made within 30 days, the Deputy Collector should send a certificate to the Collector to the effect that the notice was delivered to the distiller in person, or mailed to him, as the case may be, and give the mouth and year in which liability is incurred, and the amount of tax due.

If the proposed assessment against a fruit distiller is occasioned in whole or in part by an unavoidable accident, or a misunderstanding of the law and regulations, the instructions to grain distillers as to submitting evidence will apply. The Deputy Collector should certify in detail, giving estimates of the loss of spirits, so that the true liability may be readily ascertained by the Collector and determined by the Commissioner.

Collectors should see that "Extracts from Regulations, Series 7, No. 7," concerning the distillation of brandy from apples, peaches, or grapes, are placed in the hands of every fruit distiller in their respective districts, and receipt taken therefor on Form No. 163. Copies of the "Extracts" and Form No. 163 may be obtained by requisition on the office.

Evidence intended to show that a proposed spirit-deficiency assessment should not be made, if forwarded to this office, without the Deputy Collector's certificate and the Collector's recommendation, will be filed in this office, and may be considered in connection with a claim for abatement on Form 47, or for refunding on Form 46, but cannot be regarded as sufficient to warrant the oroission of the proposed assessment.

E. Hennesson, Acting Commissioner. Approved:

HUGH S. THOMPSON,

Acting Secretary of the Treasury.

Yellow diamonds are made blue of the purest water, for the time being, by being colored with a common indelible blue pencit, equalized by a rubbing with cotton or linen. A magnifying glass will fail to show the fraud, but alcohol, turpentine, or benzine will wash off the color.

#### THE OLIVE.

Within certain latitudes the olives will

grow auywhere and serve for almost any purpose. On a dry and stony elevation that would starve out a thistle, the plant luxuriates; and if the sea breezes may but fan the young shoots, so much more of promise is there for the clive harvest. Propagated chiefly by cuttings, the willowy looking twigs take root with a proud defiance of ordinary rules; and their is a whimsically planted grove of olive trees of unusual size and beauty near the town of Messa, in Morocco, which illustrates this trait in a remarkable way. One of the kings of the dynasty of Saddia, being on a military expadition, encamped there with his army. The pegs with which the culvary picketed their horses were cut from olives in the neighborhood; and some sudden cause of alarm leading to the abandoument of the position, the pegs were left in the ground, and, making the bast of the situation, developed into the handsomest group of olives in the district. Olives are mer tioned in the earliest records of Egypt, and their introduction into Greece took place at least as early as 1,500 years before our Thence their cultivation naturall passed into Italy, the Romans especiall prizing them; while Virgil mentions thre distinct varieties, each of which has itown fastidious supporters in the ancient conflict of tastea. Pliny also talls us that they also grow in the heart of Spain and France though he awards the palm to the smaller olive of Syria, the olive that was at least more delicate than that produced is the western countries. So far as regards the oil of Spain, and to some extent that of Italy, this judgment stands good to the present hour; for the reasons that the Spanish olive is a large and coarser fruit, while the Italian growers are to apt to de tract from the limpid delicacy of the virgin oil by the sacrifice of quality to quantity. For the clive, like all generous givera, demands that you should "squeeze" him gently. The oil is expressed from the entire pulp and body of the fruit, and its body stands in inverse proportions to the quantity produced. The first pressure yields a thin, pure liquid, almost colorless; and with this even the most fastidious of Euglish palates rarely make acquaintance. As the pressure is increased a less delicate product is the result; while if it is still further prolonged a rank and unwholesome residum is obtained, wholly unfit for edible purposes. It should be mentioned that virgil oil does not maintain its freshness for more than a few weeks without the addition of sugar, and it is almost impossible for any one to realize the exquisite delicacy of this first expression of the freshly gathered olive, nuless he has sojourned in such a district as that which, say, Avignou is the center. The oil of Aramout, in Provence, was formerly supposed to have no equal in Europe. Both the olive and the manufactured oil of the southeast of France are, indeed, still unrivaled by those of another country. The Italians pay more respect to the commercial aspect of their production, and among them the number of olive farmers and merchants is very large. They have a proverb, "If you wish to leave a competency to your grandchildren, plant an olive.' Doubtless the advice is sound enough, for the trees often flourish for more than a century, and bear heavy crops to the last. But to the peasant of South France the

laborer. Prodent housewives there are as adverse to the introduction of a new fruit at table as their thirteen English sisters are to the "new" loaf. In fact they habitually preserve the darker berries for everyday use for these not being so agreeable to the taste, "go" further—a necessary consideration when they oftener form the staple than the accompaniment of the meal.

Olives intended for eating are gathered while still green, usually in the month of September. They are soaked for some hours in the strongest possible ' lye' to get rid of their bitterness, and are afterwards allowed to stand for a fortnight in frequently changed fresh water, in order to be perfectly purified of the lye. It only then remains to preserve them in common salt and water, whom they are ready for export. Among the Remans the clive held he privileged position of being equally resp. cted as a dainty accessory and au ordinary food. It was eaten at the table of the temperate and luxurious slike; and, while dividing the highly flavored dishes of their extravagant suppors, formed a constituent of Horace's postoral m al-"Of olive, endive, simple tastes, and mellow."-Ex.

### CHEMICALLY PURE BRANDY.

The G. M. Jarvis Company of San Jose are now the most important brandy distillers in the United States. Their brandy is made by a new process that removes the fusil oil and leaves it chemically pure. Its characteristic fragrance and bouquet are proverbial, and its flavor on the palate is rich and invigorating with a fine aroma. The Chicago Medical College says: "The Jarvis brandy is exceptionally pure, besides it has all the elements of good brandy as found by analysis by leading wine chemists."

The G. M. Jarvis Company were awarded the first premium at the great World's Fair at New Orleans for finest brandy and best port wine. They have gold medals from our State Fairs, Mechanics' Fair and District Fairs, and their brandy stands head and shoulders above all competitors on this Coast. They have a working capital of \$50,000 incorporated in 1885, but the president. Mr. G. M. Jarvis, has been actively engaged in growing grapes, making wine and distilling brandy for a quarter of a century. Ha planted his famous Vine Hill vineyard in 1860 when we were nominating the immortal Lincoln for President. The Company have an Eastern agency at 39 North State street, Chicago, and have a large and increasing trade all over the great northwest. The Santa Clara valley and the adjacent mountains are probably equal to any part of Europe for luscious grapes and for most semi-tropical fruits. It is in this great center of this fine fruit county that they select their fruits for wine and brandy making.

#### A GOOD SHOWING.

posed to have no equal in Europe. Both the olive and the manufactured oil of the southeast of France are, indeed, still unrivaled by those of another country. The Italiana pay more respect to the commerpitaliana pay more respect to the commerpita

#### THE CHEWISTRY OF WINE

In a former article published in this journal on the 22nd of June, 1888, under the above caption, reference was made to the chemical changes which take place io the natural ageing or maturing of wines after fermentation.

This article is intended to show that all the chemical changes which take place in the juice of the grape, from the time that it leaves the wine-press till it becomes old ripe wine, are purely chemical from beginning to end, and that a chemical change, when once effected, can never be reversed. In other words, when a wine or liquor has been matered by time, or by any process which hastens time, nothing whatever can change it back to its original condition.

It also shows the reasons why a wine is liable to spoil, and is unhealthy and unfit for use before certain chemical changes bave been effected, and also that when those definite changes have taken place, no matter how produced, the wine is fragrant, delicious, exhilarating and healthy, and is not liable to spoil like a wine in which no chemical changes have occurred.

When the juice called must is pressed from the grapes, it contains, in a condition of mechanical mixture principally water, grape sogar, essential oils, tartaric and other acids, the tartrates of lime, soda and potash, tog-ther with the nitrogenous or proteine compounds, called albumen, pectine, gluten and caseine.

The first chemical change which takes place is the transformation of grape sngar into alcohol. The intensity of this change is very great. By its action heat is generated and carbonic acid gas is evolved.

After the sugar has been transformed into alcohol, no process known can possibly change it back again into sugar. The change is definite and permanent.

The second chemical change (which goes on simultaneously with the third change) is the transformation of the essential oile into aromatic ethers. An ether cannot be changed back into oil and alcohol no more than soap can be changed back into the lye and grease from which it was made.

The third chemical change is the extraction of the rich flavor and smooth body from the proteine compounds and the precipitation of the inert residue, together with the earthy tartrates and other impurities. This change cannot be reversed no more easily than a mellow and delicious winter apple can be changed back into the hard sour and indigestible thing that it was when it was placed in the cellar.

A new wine, disagreeable and unbealthy as it is when new, really contains all the elements within itself to make the rich, delicions and healthy old wine, that tickles the palate of the connoisseur, and fills his brsin with cheerful delight.

It may be stated as a general rule that a chemical change when effected is not reversible of its own accord, consequently, when a wine is once ripened it is impossible for it to change back into its original condition of new wine.

The nitrogenous or proteine compounds are really the most important components in wine, with which the wine maker has to deal. It is in them alone that germs propagate and grow. As long as they exist in wine, germs will be present, but as soon as they cease to exist as such, no germs can be found. If it was pessible to kill all the germs, exposure to the air would develop a new crop, if proteins was still present in the wine. Heat will destroy consequently lacked that much of being

substances so that their beneficial effect those unfavorable conditions. upon the wine is lost. That in the chemi cal changes which a wine undergoes by age, those compounds decompose and form new combinations with the alcohol and acids, is a well-known fact. That they add volume and richness to the wine, there seems to be go doubt, and that their inert residue preprecipitates and is acparated from the wine by racking, is well known.

Whenever any trace of proteine is present the wine is immature, and is liable under certain conditions, to either ferment or turn sour. It is, therefore, the proteins compounds and not the germs, that renders wine liable to spoil,

It is well known that California wines, made from the finer varietica of grapes, contain all the elements that go to make the finest old European wines. The reason that California wines are unpopular, is the well-known fact that they are generally put npon the market in a too new, nuripe and immuture condition. The proteine compound being still present, the wine will sometimes not stand transportation across he continent to the Eastern markets, without a liability to spoil. If in addition to the presence of the unconverted oils, acids, and proteine compounds, salveilic acid, or any other poisonous preservative, is added to keep the wine from spoiling, its unpleasant taste and unhealthy condition is thereby increased. The public caunot be educated to use a wine that is unpleasant to the taste and that makes the consumers sick.

The California wine growers have shown a wonderful amount of energy and perseverence in cultivating the finest varieties of imported vines, and all that now remains for them to do is to furnish their wines to the consumers in a fully ripe and mature condition. When this can be done, the consumption will increase immensely, and the price will advance in proportion to the greater demand.

As has been already shown, all that is necessary is the transformation of the original elements into new combinations. This can be done either by the old time process of letting it lie in cellars from three to five years, or by placing it in the magnetic field for a period of from four to six weeks. That the latter method can show results that can not be excelled by the former, is shown very forcibly by the following certificate from one of the most trustworthy citizens of Sau Francisco.

# THE "PRABER" PROCESS.

Of all the numerous tests to which wines treated by the "Fraser Process" have been submitted, one of the most important to my mind was in my own cellar at 123 O'Farrell Street, in this city.

Two tanks containing 105 gallons each were filled with wine on the 26th day of June, 1886. One was filled with Zinfandel claret, and the other with Gutedel white wine, both made by J. H. Drummond, Esq., of Glen Ellen, Sonoma County, of the vintage of 1885. After the wine was under treatment about five weeks, it was put into barrels and kept in the cellar. No attention was paid to it whatever. It was acither racked nor were the barrels filled for a period of twenty months. It was expected that the wine had speiled, yet upon examination, to my great surprise, both kinds were clear, bright and sound, and possessed the bouquet and flavor of ripe old wines. The barrels had lost by evaporation at least 4 or 5 gallons each,

germs, but it will also cook the nitrogenous full, yet the wine had kept perfectly under

On the other hand, the samples of the untreated wines that were kept under equally favorable conditions, had entirely spoiled. This experiment proves very clearly, to my mind, that not only bouquef and flavor are developed by the process, but the wine is preserved against accordary fermentations and a liability to spoil under the most unfavorable conditions.

THOMAS PENLINGTON,

San Francisco, June 6th, 1888.

## SULTANA RAISINS IN ASIA MINOR.

The principal supply of this important article of commerce comes from Smyrna, the vineyards lying generally within twenty miles of that port. Those situated upon the sea coast require great care to protect them against mildew, for which the aulphursprinkling process, if properly employed, proves sufficient. The best quality of raisin is made from billside vineyards, having well drained soil with a good proportion of iron in it, and a southern exposure. The greatest annual yields, however, are got in the deep, rich soil of the plains or valleys when properly drained and the vines well exposed to the sun, but protected against both hot winds and cold currents of air. Hillside vines are the longest lived, frequently bearing for nearly a century. In starting a nursery, trenches are dug in late fall or winter to a depth of about three feet, all stones, roots and other hard substances being removed. This work is done with spades and forks, and often gons over several times before planting. The cuttings, which are planted three feet apart, and carefully watched natil transplanted, are kept perfectly free from weeds and all vine pests, and when needfal are watered by hand. Planting in the vineyard is done from March 1st to April 15th, the vinea being set from nine to ten feet apart. Smaller intervals produce the shading of one vine by another keeping out the sun, which is indispensable to ripen the fruit. No system of irrigation is practiced, but some water is used in some localities where the soil needs it, and water is accessible. Raius prevail more or less during the growing season, sometimes doing great damage during vintage. Cultivation, as performed by the native proprietors, is wholly by hand, with the rudest of tools, but of late years vinevardists from France, Spain, Italy and Greece are introducing the better methods and improved implements of those countries. Vines do not come into bearing sufficient to pay expenses before the fourth year. Grapes begin to ripen about July 1st. A portion is left to dry upon the vines, first cutting through the stalk of each bunch. This makes a common grade. The best grade is made by dipping the grapes into a hot lye made from wood ashes, or ashes of plants found on the seashore. This lye is filtered, and when of the specific gravity of 10 per cent, greater than water, is of proper strength. To every four gallons of this lye are added one pint of alive oil and four onnees of salt. After dipping, the fruit is spread upon hurdles of wicker work and set to dry. In the interior, where there are no fogs, and the nights as well as the days are hot, the hurdles are stacked to keep out the sun, but admit of air passing over the fruit, and thus acquire the amber tint, so much desired in Sultana raisins.

Subscribe for the MERCHANT.

GRAPE GRAFTING

As regular as the season comes round I am asked to describe the mode. By the time this gets before our readers some who are in a hurry may have already done the work. After many years of experience, doing the work at all times, from the tune the frost was out of the ground, until the vines have made shoots a foot long, with varied success, I have come to the conclusion that the best time is when the vines have started to grow, the grafts being kept in a cool, shady place so that they were a little behind the stock in starting. To keep them entirely dormant in an icehouse, as some recommend, it is wrong. I have had the buds on the grafts swollen ready to burst when inserted that started to grow in a week after. Clear the ground away from the root three or four inches deep, saw off a smooth place at the bottom. If no smooth place can be found, saw into the stump instead of splitting, as usual. A thick, wide-set saw I prefer to the knife, even in a straight stump. Shave your graft to fit the cut with a shoulder, tie if the stock is less than an inch in diameter, then fill in the earth carefully, press firmly but do not move graft. Hill up to the upper bnd, stick a peg one inch from each graft on one side, alway on the same, so you can tell exactly where the graft is Then cover the eye over with a handful of sawdust; throw a little mulch on and leava it until the grafts begin to grow. I nse two-eyed grafts, unless the wood is longjointed and thick, when one eya wil answer. When the grafts begin to grow the suckers must be kept off. As soon as the graft begin to grow it must be tied up to a stake to keep the wind from blowing it down. In this way I nearly always ge fruit a little sooner than when I buy small vine. Have now strong vines o Empire State that were set in spring o 1886; bore fruit last year, while three vine planted the year before that cost me \$6 have not borne a bunch of fruit yet, and not much show of doing it the coming ses son. I cannot see the policy of diggin worthless vines up and planting others i their place. Graft them with somethin

GRAFTING WAX .- How to make this often asked, and while there are man receipts giving, the one that I like bet after forty years of experience is made t follows: Use one pint linseed oil, for pounds resin, one pound beeswax. Melt a ver a slow fire; stir well and pour o water; when cool enough to work, great the hands well and work it like shoemaker wax or taffy. Then roll bolls of conver ent size for putting into the vessel use when grafting. It should be heated ov a moderate fire and put on the grafts thi but not too hot. This wax will not cras in cold weather, nor run, even if t weather gets up to 100 degrees in shade. Ex.

#### A Simple Disinfectant.

Copperas, (aulphate of iron is an exc lent disinfectant and should be freely us on the farm during the hot weather. very cheap and the expense need not de any one from using it. A double handf dissolved in a pail of water, makes a go and efficient solution. Sprinkle this in vaults, cosspools and house drains one week and you will be safe from any malar influence in that direction. It is one of best articles for this purpose.

#### VINTAGE AND VINICICATION,

SEPARATION OF STALKS.

When a load of grapes arrives at the press-house, the question has to be decided whether or not the stalks are to be removed from the grapes previous to mashing. When woody, and do not easily yield juice to any are never separated from the grapes; in pressure, however strong. But when the grapes are less ripe, the stalks are green and succulent, and yield much harsh as, tringent juics on pressure. Practically, in the case of white wines, the stalks are never separated from the grapes; in some cases of light wines, which incline to be viscous, it is even advantageous to leave the stalks in prolonged contact with the must. But this is exceptional, inasmuch as most of white grapes is, as a rule, pressed immediately, and not left in contact with the murk for any length of time, The Champagne grapes are also pressed with the stalks, and the juice of the latter causes the last third of the must which flows from the press to be harsh and of less value than the first parts. With most other black grapes the case is different, because they have to remain in contact with the juice for a length of time during fermentation. If, then, the murk is very astringent, and the stalks are left in the fluid, a barsh wine is produced, which requires years to become drinkable. But the same grapes, fermented without the stalks, yield a milder, better maturing wine. They are therefore separated before the grapes are mashed. This separation of the stalks (French, egrappage; German, Abradpen) can be affected by various means. A simple method consists in the stirring of the bunches in a tuh with a trident of wood by the rotary action of this instrument the berries are detached and the stalks rise to the surface and are taken off. Another machine consists of a cage of parallel wires, in which a stirrer is revolved by a handle turned outside. The bunches enter above by a funnel, the berries drop through the interstices of the wires of the cage, which at last contains only stalks to be removed by the hand through a side door. There are also in use various net-shaped trays, on which the bunches are manipulated until the herries have fallen through This work is not easy upon all varieties of grapes; ripe Verdot of the palus of the Gironde will drop its grapes like hail when t is merely shaken, while ripe Pineau is not so easily separated. The operation is he more difficult the less ripe the grapes

#### MASHING AND CRUSHING.

The berries, whether separated or not, nave now to be mashed or crushed. This nast be done with the precaution not to rush the pips or stones, and the stalks if hey remain. It has therefore ulways been favorite mode of commituation to let the rapes be trodden by men. We believe hat this is a very excellent method if leanly and properly performed. It is done n a wide wooden platform, or in a large ab, and the juice which is pressed out is llowed to flow off into separate receptales. In some parts the treading of the ropes is done by men wearing heavy oots. In this case the pipes and stalks re easily injured and crushed, and comunicate unpleasant qualities to the wine. 'he same is the case with the ordinary nachines or grape mills, which consist of

objectionable, and perhaps be preferable to the feet of men because working quicker, if the rollers were made of vulcanized caoutchoue.

#### WINE-PRESSES AND PRESSING.

In the preparation of white wine the must is separated as much as possible from the murk before the latter is pressed, so that the volume of the matter to be pressed is as small as possible. In the preparation of Champagne wine the grapes are, however, not crushed at all in detail previously to their being put into the press, and the only crushing which they receive is by the press itself. It is for this reason that the presses in the Champagne are the most powerful of any known. In the preparaof red wines the juics which flows off the platform or press, together with all the husks on the press, and the stalks, if they have not been removed, are put into the fermentation vat. Fermentation is allowed to complete itself, the wine is then stirred energ tically with the hasks, so as to extract the utmost amount of coloring matter; all the wine which will run off itself is drawn from the taps, and the murk is out into the press, and the wine flowing from it added to the other. Wherever red wine is made, the platform on which the grapes are trodden serves also as press, an iron screw being fixed in the middle, surrounded by a basket in which the mark is placed. The science of the wive presses would admit of the composition of a separate treatise. Most of these machines reflect the greed rather than the wise ingenuity of their constructors. No doubt a wine press should have certain power, sufficient in all cases to eff ct the object in view, namely, the expulsion of all the juice from the murk. But presses which force the juice out of the stalks and the oil out of the pips are injurinus to the wine, and should be avoided, or the juice so expressed at the end of an operation should be put aside and not mixed with the must. The most suitable presses appear to be those common in the Gironde, which have an iron screw in the middle, of a high round basket made of perpendicular laths, destined to receive the murk, and a nut, which is turned upon this screw from above downwards by means of levers, presses the wooden blocks upon the murk, which thereupon oozes its liquid through the basket by which it is surround ed. It is probable that in large establishments presses will soon have to compete with centrifugal machines, which perform in two hours, with the aid of three men, what presses working upon the same amount of material can only perform in seventeen hours, with the aid of seven men.

#### PERMENTATION

The fine white wines of the Gironde are all fermented in barriques, which in this country are called hogsheads. New casks ars always taken; they are not completely filled with must, so that no yeast or impurity can escape from the bung, but all is drowned in the wine. The white wines of the Rhine are mostly fermented in large casks, containing 1200 litres each, and calld "piece" (German, Stück). Sherries are fermented in tuns and in butts. The Cham pagne wines, after having been cleared of scu'n and deposit, are also fermented in small casks of 220 litres each. It may thus be said that white wine is generally fermented in barrels with only the ordinary bunghole at the top open for the escape of the carbonie acid gas. But red wines are rooved wooden rollers working against fermented in vats; that is to say, conical

cations introduced into the preparation of red wine by the bulk of the husks and the necessity for stirring. In the Gironde the vsts sre filled to a certain point; if the stalks have been separated they are placed on the top of the murk, the houss is shut, and fermentation allowed to complete itself. The top of stalks is now taken off, together with the outer layer of murk, which is mostly somewhat decomposed. But the bulk of the murk is now submerged and stirred with the new wine, so that its colur may be tully extracted. At last the wine is drawn off and the murk put in the press. In other parts the husks of red must are kept submerged in the fluid by a wnoden cover fixed somewhat under the level of the fluid, and pierced with holes to allow the gas to escape In other districts again the vats are covered, but opened daily, and the murk is suhmerged with wooden instruments. In parts of Burgundy the vats are not covered, nor is the murk stirred before fermentation is complete. At that period, however, the mixture receives and energetic stirring by men, who enter the vata quite naked and work about in the mixture with body and limbs. This most objectionable practice is now happily on the decline. When the fermentation of the red wins is complete, the liquid is put into barrels and allowed to settle. It clears much quicker than the white wine, which remains thick for weeks when fermenting in the temperate atmosphere of northern districts. But the red wine, having been fermented in larger bulk, attains a higher temperature and therefore is finished in a shorter period. In southern parts, where there are mostly no cellars, the white wine, if it is allowed, completes its fermentation as quickly as the red. The only means available in those parts to slacken fermentation is the placing of the wine in stone vats, which by conducting heat better than wood, effect a reduction of temperature of the must, and thereby retard fermentation.

When the wine has completed its fermentation and become clear, all the yeast and impurity are deposited in the bottom of the cask. From this the wine has to be separated by the process called "racking" This can be done by drawing the wine through a syphon placed in the bunghole, or through a tap fixed in the most suitable place. The clear wine is put into a clean cask; the cask just emptied is freed of its lees, washed and rinsed, and is immediately ready to receive the clear wine from another cask to be racked. By this operation the wine generally becomes disturbed a little, or it is not yet quite clear, and in any cass requires fining. This is mostly done by means of isinglass, of which a small quantity is soaked in wine until soft, and then stirred with the contents of a cask. All casks thus treated are made bung-full, closed, and allowed to rest for six weeks. After this period the wine is mostly quite clear and bright, and being racked another time mostly remains so. In this state the wine is kept in the celler or shed (chais) until ready for sale, use or bottling.

PRODUCTION OF WINE BY THE PROCESS OF PETIOT.

In 1852, Petiot caused a quantity of black grapes, which by pressing would have given 60 hectolitres of wine, to be crushed, and 45 hectolitres of the juice, which ran off before it had time to ferment, to be collected. He mixed this with an equal quantity of

mechanical necessity, owing to the compli- ture of equal parts of grape-juice and sugarwater yielded him a very good wine. the pulp of the grapes which remained behind, Petiot added 50 hectolitres of sugarsolution containing 18 per cent of sugar. The mixture fermented immediately, and was finished in three days; and 50 hectolitres of wine of a nice color were drawn. Pleased with the quality of his product, Petiot determined to exhaust the murk to the atmost. He repeated the process twice more, and each time with 55 hectolitres of sugar-solution containing 22 to 23 per cent of sugar. At last he made a fifth experiment by mixing the murk which had been pressed with 45 hectolitres of sugar-solution of equal concentration as before. From a quantity of grapes which, according to the ordinary proceeding, would have yielded only 60 hectolitres of wine, there were obtained, by the sid of 240 hectolitres of sugar-solution, on the whole 90 hectolitres of white, and 195 hectolitres of red winealtogether, therefore, 285 hectolitres of wine -as Petiot says, " wine in the full sense of the word," It was therefore certain that the many matters which are contained in the grapes, or some of them, and which are not extracted with the must, are capable of passing into a large quantity of sugar-solution when it is brought in contact with the grapes or their residues, and of transforming it iuto wine. These experiments were witnessed by the celebrated chemists Thénard, father and son, who were neighbors of Petiot. Thénard was in the year 1855 prevailed upon to treat the whole of his vintage produce according to this method; and he obtained from a quantity of grapes, which according to the ordinary proceeding would have given him 500 hectolitres of wine, 2,000 hectolitres, the quality of which gave general satisfaction.

Of the infusion of sugar-solution which Petiot made in 1854, the third gave the strongest colored product. In the year 1855 the whole of the coloring matter of the grapes was already exhausted by two infusions. The new wine is less acid and more drinkable; it has more bouquet than the wine which is made from the grapes directly. It has an extraordinary power of lasting. In June he took several bottles and put them in a warm place in the kitchen. Here they were left standing upwright -part of them without corks-for three months; and while he caused several persons to taste of them from time to time till they were gradually emptied, the wive did not become worse, and remained clear and without taste of acid to the end. He sent a sample of this wine to New Orleans, where it arrived in perfect condition.

Although the factitions wine contains probably a somewhat larger quantity of unchanged sugar, which gives it a more agreeable taste, yet it does not again pass into fermentation, because it does not contain any fermentescibe albuminous matter. The white variety requires a little more time for clearing, because the yeast is not sufficient to decompose all the sugar very quickly; but once clear, it never becomes turbid again.

MERCHANTS in some of the cities of the State have adopted a novel scheme of advertising. They place a writing desk in front of their place of business where the harrying public is afforded an opportunity to stop and write as they push along the thoroughfare. This might be an excellent. tooved wooden rollers working against fermented in vats; that is to say, conicel ach other. Such machines would be less wooden casks open at the top. This is a amount of sugar as the must. This mix- ing men should try it.

#### THE VINTAGE OF 1888.

It is very singular that there should be any difficulty at all in making a proper estimate of the wine crop of California for eny given year, and yet there is a wide divergence of opinion whenever it is sought to be ascertained what the probable yield will be. It almost seems as if there was a studied attempt to conceal the real condition of wine making in this State, and to make one of our most important industries appear insignificant and of little value. One can understand why the wine dealers, who buy cheap and sell dear, should underestimate the value and importance of the crop but why any one else should seek to do so is a mystery.

As to the vintage of 1888, the difference of opinion is very great. One man says it will not exceed 18,000,000 gallons, while another insists that it will reach 30,009,000 gallons. Surely there is something out of the way when estimates differ so widely. Each estimate is based on the probable yield of the grapes, with due allowance made for contingencies and casualities, and a difference of 12,0 0,000 gallons in the estimate shows that the statistics of California wice making are not carefully kept

It can hardly be that the lower estimate of the correct, noless the entire State is in error as to increased acreage of grapes and increased facilities for wine making. The yield in 1885 was 11,000,000 gallons and in 1886 it was 18,000,000 gallons, and it can hardly be presumed, barring accident, that the State will not make more wine in 1888 than it did in 1886.

The gentleman who made the 18,000,000 gallon estimate argued that the low prices ruling for wines during the last season had deterred viticulturists from increasing their acreage. If he is correct California has reached the end of her career as a wine making country. If a combination of wine dealers who were able to keep prices down for a season is enough to deter wine makers from carrying on that industry, it is time that the vines were rooted out and potatoes or cabbages plauted in their places. It is true that the price of new wine was low last aeason, much lower than the the price of wine of similar character in France; but that was due not to any defect in the quality of the wine itself, nor to any abated demand for it, but to the shrewdness of the wine dealers, who formed what Cleveland would eall a trust, and used the power of aggregated capital to crush the producer of wine,

The remedy for that state of affairs is in the hands of the producers themselves. It is always allowable to fight the devil with fire, and the way to meet a combination of wine dealers and middlemen is to form a combination of producers. There is neither reason nor justice in permitting the purchaser to fix the price of an article, and if the wine makers would only exercise a little common sense and lay aside jeatousies and auspicions of each other, they could very easily unite in the common defense and compel the wine dealers to come to them and to pay them a fair price for their wines.—Chronicle.

AGE OF THE EASTH, —According to geological computations, the minimum age of earth since the formations of the primitive soils, is 21,000,000 years, allowing 6,700,000 years for the primordial formations, 6,400,000 years for the secondary age, 400,000 years for the tertiary age, and 100,000 years for the tertiary age, and 100,000 years since the appearance of man upon the globe.

#### THE "BAGRING" REMEDY

The "bagging remedy" for grape-rot and mildew is being much talked of and advocated sava the Unevardist as a certain protection against these destructive diseases of the vine. The bags are made of light and cheap paper-manlla is probably the best-like the bags used for amall grocery packagea-and after punching a hole in the bottom with the finger, to let out water and let in air, one is slipped over each bunch, when the fruit is nearly grown, and 'astened by pinning the edges of the mouth together loosely around the stem, above the cluster, thus inclosing it in the bag, Bags are also made of thin and light mos quito netting, and are by some regarded as preferable to papers, as they admit the light and sir freely, and will, if eared fur, last several years,

It is claimed that grapes thus protected ere almost entirely exempt from both rot and mildew, as well as other and less well-I fin d discases and insect pests; and this s unquestionably true. But the expense and labor of this new method is too much o make it practicable for large vin yards, chile it may be a very desirable safeguard or application to a few garden or residence ground vines, or for very small vineyards of but an acre or two; and it is for the benefit of these that this short article is written. Extensive vineyards must have cheaper and more easily applied remedies for the grapes alluded to, or get along as best they can till the periods of these grape destroyers, like those that attack other kinds of vegetation, pass away. Fortunately, thus far, our lake grape growing aection of country is not alarmingly afficted with the grapes pestilence that have seemed to render "bagging" an indispensable necessity in some other and not remote states of the union.

#### LABOR IN VINEYARDS.

The St. Helena Star of last week writes in relation to labor during the wine-making season. The reference made to supplying better accommodations for employes at such times is in accordance with our belief, and just what we have advocated in these columns. In the great hop-growing districts of the East, each hop-grower has extra bedding, dishes, tables, etc., for the accommodation of respectable people whom they employ during the hop-picking season-often to the number of a hundred, and more. The same will finally be true here among grape growers; and as the climate is mild, the necessary room can be temporarily furnished at far less expenso than at the East. Chinese will not always pick as many California grapes as they do now. White help for such work is going to be more plentiful, and grape-growers will have it in preferance to any other; but the necessary accommodations will have to be supplied. The paper mentioned says Now that everything promises well for a very fair yield this season, the question of labor naturally comes up. This question seema to be quite generally agitated throughout the state at present. seems to be a scarcity of help and the shrewd Chinese have grasped the situation and are demanding an increase to their wages. This is naturally to be expected, It will be remembered that although the crops were short last year, there was a acarcity of labor, and now that we are to have a good yield it behooves our vineyard men to look ahead a little. There is one advan-

tage this section enjoys. As the vintage season comes after the harvesting of hay and grain, a large number of men can be engaged for handling the grapes; but even this is not a sufficient guarantee there will he plenty of help by any means. There is one thing which should be remedied, and that is, thellack of accommodations for hired help during the vintage season. The average laboring man is opposed to sleeping in haystacks and old barns, and he is not to be blamed. If all our vineyard men should adopt some plan of giving the young school boys and girls work in our vineyards; but, as things now are, no mother would wish to have any of her children at work unless they were employed near enough to town to be at home of nights."

#### PECULIAR PROCEEDINGS.

On the second of last March the Marguerite Winery of Fresno, consisting of two large buildings used for the purpose of storing wines and brandies, was burned to the ground. The property was insured to the anount of \$30,000 or \$10,000 through the agency of Brown, Craig & Co, of this city.

The agents decided to dispute payment, and Morse's Detective Agency was engaged to work up the ease. On the 19th of April an operative named Densy was sent down to investigate the matter. He remained in Freano and vicinity about two weeks, quietly gathering information. Upon his statement the insurance company refused to pay the amount of the insurance, and about a week ago suit was begun against them by the owner of the property destroyed, a man named Rogers, who swore to the total loss of the entire amount of wines and brandies stored in the winery.

Densy was again Jetailed to go to Fresno, having received an inkling that a portion or all of the wines and brandies had not been destroyed, and after a search of two or three days he became satisfied of this fact, and telegraphed for J. N. E. Wilson, the attorney of the company, who arrived in Fresuo last Tuesday. On Wednesday, while the case was being tried in court, Deasy went to a ranch, a short distance from Fresno, and with a gang of men armed with picks and shovels, on a prospecting tour. The result was, in detective parlance, a "big baul." Barrels of wine were found buried near Roger's house, under his house, in the barn, in sheds, stored in loose hay and buried in the open field. Every place which promised a perfect concealment was pre-emptied, in one place twelve large puu cheons being found in an excavation in the open field, over which boards had been placed, and on top of these a sprinkling of earth from which a sturdy crop of grass was growing. There were found twenty five barrels of a fine quality of port, sherry and brandy stored in the barn. Search was also made of the premises of Captain St. Hubert, who had charge of making the wine, and in his cellar were found nine barrels of brandy, three of port and a fine assortment of sherries and clarets. another house 10,000 gallons of wine were discovered, and on Thursday still other hidden stores were uncurthed

Rogers has been a prominent citiz in of Fresno for a number of years and has been largely engaged in the wine business.

Great excitement prevnils in Fresno over the supposed bearing of the disclosures.

Subscribe for the S. F. MAR BANT,

#### WINE FOR TEMPERANCE.

It is such an old controversy, whether wine drinking is compatible with temperance, and it has been so fiercely fought over and turned inside out, that no new thing remains to be said of it. But some good things and true things that have been said about it will bear bringing out and saving again. Indeed, if we must say only that which is new and never before said, we may as well stop the making pens and cast no more type, the present supply being more than enough to exhaust the expression of all remaining originality. For wine in immoderation we have no good word, any more than for overeating or overfasting, overid. ling or overworking, or any other of the numberless excesses going on about us now us they always have been, and doubtless always will be; but for wine, pure fermented grave wine in moderation, we believe that a good temperance argument can be made. Wine to restore the failing appetite and arrest the intemperate wasts of the body's strength; wine to soothe the wrung and shattered nerves, and bring calin repose to the intemperately wrought up temper; wine to check the sinking of heart, the failing museles, the dimming of sight, and reeling of brain, proceeding from intemperate overwork; wine to bring cheer to the soul, to drive off the black phantasms of despair, to put good will into the heart beseiged by hatred, envy, malice, and all uncharitableness, and turn the cynic and hater into the friend and lover of his kind, is there nothing of temperance in this? Or is it temperate only to spurn this gift of God, to turn away this strengthener, soother, comforter and friend (if we use it as a friend), and seek the refreshment which nature demands we shall have, or die, in nerve-maddening tea, brain and liver destroying coffee, or the seductive bitters called by the name of temperance? Or steering between the two, is it only temperance to insist that the poor human body needs only nature's providings, and deny that if left to its own powers it must sooner or later have something of tonic and stimulus, or drift into dyspepsis or strophy?-Cal. Fruit Grover,

# AN EXPERT ON WINES.

"Does wine get seasiek?" asked a reporter of a champagne expert.

"Certainly it does," he answered, "and it does not recover from it until it has laid a month undisturbed in a cellar where the temperature does not vary. In warm weather it requires longer rest. This is why our firm imports as little as possible during the summer months. Frost is also a great enemy of pure champagne, and it is dangerons to import it during very cold weather. When touched by frost wine becomes flaky, and it often takes months for it to recover. The facilities for protecting wine from frost while in transit from Reims to the seaboard are very poor, even if the wine was not affected by the voyage.

Clarets and Burgundies should rest a month to recover from the effects of a sea voyage. Rhine wine cannot be imported at all in summer except in glass, and even then it needs rest. Englishmen imagine that champagne is not fit to drink until it becomes mellow with age and has lost its sparkle. This is an absurd idea. In this condition it is really a kind of Chablis. Clarets, with rare exceptions, are unfit to drink after becoming ten years old."—N.Y. Econing Sun.



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FRIDAY......JULY 6, 1888

# FOR SALE.

A Wine Press. -APPLY AT-

Office of "S, F, MERCHANT."

### A FINE CELLAR.

The Livermore Herald says: A. Duvall's new cellar on his Bellevue vineyard is now rapidly nearing completion. The roof is on, and the work of cementing the walls nearly done. This is the largest cellar yet constructed in this valley, being 60x120 on the ground, and three stories in height. The first two stories are of brick, and the third of wood. Mr. Duvell has two other cellars, built in the same style, but somewhat amaller. These are cemented both inside and out, and have cement floors, as will the third. Mr. Duvall is probably one of the most thorough and painstaking man engaged in viticultural pursuits in this State, and being possessed of ample means, he leaves nothing undone which might be considered necessary by the most captious critic. The growth of his vineyard, orchard trees and ornsmental trees and shrubs, and the sudden uprising from the midst of all, of a small city of wine cellars, residences, cottages, stables, tank houses, etc., have been a constant source of wonder to all who have watched the marvellous development of this estate.

WE have sixty divisions on the dials of our clocks and watches, because the old Greek astronomer, Hipparchus, who lived in the second century before Christ, accepted the Babylonian system of reckoning time, that system being sexsgesimal. The Baylovians were acquainted with the decimal system, but for common or practica purposes they counted by "sossi" and "sari," the "sossos" representing sixty and the "saros" six times sixty-360. From Hipparchus that mode of reckoning found its way into the works of Ptolomy, about 150 A.D., and thence was carried down the stream of science and civilization and found its way to the dial-plate of our clocks and watches.

ITALY is the greatest olive-producing country, 1,250,000 acres being developed to that industry, yielding 30,000,000 to 50,000-000 gallous of oil anunally.

advices from wine growing centers, is as follows:

In the Bordeaux districts of France, the vines during the fortnight under review, have, un the whole, made good headway Some thunderstorms occurred, accompanied by refreshing showers, causing the hudding to develop marvelously. Should the warm temperature continue, whatever delay there has been will soon be recouped. The prospect of a good vintage has predisposed prop leters not to cling too obstinately to the comparatively high prices they have latterly been asking. From the Palus in particular favorable advices as to the development of th vin shave been received. Some damage was meanwhile done by a hail storm the day b fore yesterday, in the districts of Saint-Estéphe, Saint-Seurin-de-Cadourne and the vineyards of Ambarés, the Carbon-Blanc and Sainte-Eulalie. In the white wine regions vines have also made satisfactory progress.

In the neighboring departments, the wine trade has come pretty much to a stand-still, the weather being all that could be desired. An abundant wine crop is even at this early stage looked for with some confidence.

In Germany, the month of Msy, during which the vines in this part of the world are frequently visited by night frosts, has so far been exempt from them, the temperature at the same time being mild enough to allow the vines to make normal progress and compensate for the lateness of the season

Seasonable weather has during the preseut month pushed vegetation, in Spaiu, sufficiently to overcome the delay a severe winter and tardy spring had wrought, so that general vintage prospects have vastly improved during the fortnight.

In Portugal the new wine crop promises well in regions not phylloxera-smitten, but the latter are in the minority since the scourge has made further headway of late

From Hungary the report comes that night frosts have been limited to a few Northern counties; elsewhere the vines have been doing tolerably well, but do not promise abundance in some districts.

EVERYTHING points to a speedy solution of the problem ever present with anxious growers, as to what we shall do with our grapes. The rapid increase noted in the yearly crops, together with the comparatively low prices which now rule, has created a bug-bear, difficult to down with ordinary argument. The experimental testa which are constantly going on in the view of ntilizing the juice of the grape are many The successful adoption of any or all means the absorption of all our product, increasing though it may be year by year. The must process, introduc d by Dr. Springmuchl, is turning out all that was predicted for it, and machinery capable of working many thousands of tons, will probably be erected this summer. Mr. Clayton, the correspondent of the Viticultural Commission in New York, suggests the advisability of putting up this must in jars and small packages for family use. In that form a good demand witt spring up, New York itself being good for at least 1,000 tons.

Another improvement which is lately reported, is that by which the must is preserved free from fermentation. The grape is first of all disinfected of the germs of fermentation by being passed through boil- parable.

In Bonfort's Circular, the latest foreign | ing water, and thence into a chamber thoroughly disinfected, where the process of manufacture is carried on, the workmen being treated to a similar course of disiofection before entering the room. It is said that this system has been subjected to a very critical investigation by several of our prominent wine men, who are satisfied that a very important discovery has been made, opening up another avenue for the disposal of surplus crops.

> Another use to which the grape is put in the Eastern States, and which might be adopted with advantage in the larger cities of our State, is that of freshly expressing the juice for drinking purposes, by small hand presses fixed on the counter of stores. The pure juica is considered highly medicinal. it having been demonstrated that it reconstructs the blood, and builds up the nervous system. This will also offer a profitable outlet for the surplus product of our vineyards.

> THE FOLLOWING self-explanatory letter is annexed to the annual report of the retiring President of the California Board of State Viticultural Commissioners:

> To His Excellency, R. W. Waterman, Governor of the State of California.

> SIR:-Herewith you will find transmitted my Annual Report for 1888 as President of the State Board of Viticultural Commissioners, together with other documents necesaary thereto.

Owing to your recent auccession to the gubernatorial chair through the death of the late Governor Bartlett, it is the first report you will have received from me; and as my term of office expires by limitation on the 19th of this month, it will also be the last I will be called upon to make during your administration. In view of these facts I deem it necessary, for your information, to dwell at soms length on the work accomplished for the benefit of the State by this Board. This is the more necessary since, in certain quarters there exists, apparently, a determined ignorance regarding the work accomplished by this Commission, as well as a sustained endeavor to cloud the great actual value of its labors.

Respectfully,

ARPAD HABASZTHY. President of the California Board of State Viticultural Commissioners.

San Francisco, April 12th, 1888.

STATISTICAL BETURNS for April, issued by the Department of Agriculture, give the first indications of winter grain prospects for the current season. The general average of the condition of wheat on April 1 is stated at 82 per cent, and of rye at 93.5 per cent, and it is authoritatively asserted that the present appearance of the wheat crop is not promising. The average for wheat above stated is the lowest which has been shown for ten years, with the exception of 1883, when it was 80 per cent, and of 1885, when it was 75 per cent. The prospect of a reduction in the yield of grain is not so disconraging when we consider the prevailing low prices; and if the European demand shall prove as full and ample as in the past, the higher range of values which short crops will entail may probably prove to be satisfactory and compensate for the falling off in the crop. Since the atatistical state-ment was made there have been extensive freshets throughout the Mississippi Valley, and a wide area of cultivated territory has been under water, great injury and loss of crops resulting, Distress is inevita-ble in such sections; but there is still hope that the damage may not be utterly irre-

C. McAPEE who has been appointed Commissioner to Paris in the interests of California wine growers, is busily engaged collecting samples of wine. The matter will be brought up at the next meeting of the Commission, when it is probable some action will be taken. The general idea among the members of the board seems to be, that in face of the large display of the wines of Europe, more attention should be given by the California exhibitor to an appropriate exhibition of our raisius, brandies and condensed must.

Wines will pall on visitors in the matter of super-sbundance, while the distinctive collection as snggested, will invita the critical attention of Connoisenra.

RECENT REPORTS to the Vtticultural Commission from the grape growing districts of the state, are on the whole, satisfactory. From the Sonoma vineyards they are very favorable, from Santa Rosa nothing extra, from St. Helena some reports are favorable, some the reverse, while from the interior countries, the prospects for a very heavy crop are considered good. From Glenwood, in Santa Cruz County, the season is said to be very propitious, with grapes looking

THE PLANTING of the olive is progressing more rapidly all over the State, than might ba credited. In nearly every section of the warmer belts, acreage is being laid out in this valuable tree. The people of the State appreciate the future value of the industry, and are evidently determined to take advantage of the low values which at present, rule in lands suitable for olive cultivation.

THE LOS ANGELES disease continues unimpeded in its course of destruction, and vineyards are suffering severely. The new plague is described by the Commission as an apoplexy of the vine, checking of the sap, under sudden climatic changes, being instantly attended with fatal results to the plant.

Fumination is said to have originated with Aeron, a physician of Agrigentum, who is said to have first caused great fires to he lighted and aromatics to be thrown iuto them to purify the air, and thus to have stopped the plague at Athens and other places in Greece about 473 B. C.

A LONDON contemporary says: A certain firm in the wine trade has recently issued a circular, in which it is stated that Lord -, one of the partners, is to be found in the office daily. What a blessed privilege it must be to buy one's champagne of the younger son of a marquis!

THE STOCK of sugar in four ports of the United Kingdom on Tuesday, June 5th, was 246,000 tons, against 223,000 tons aame time last year. Private accounts report the beet crop still suffering from drouth.

THE BERRIES are setting on Chas. A. Wetmore's olive orchard, which were reported so full of fruit bads, a few weeks ago. The crop is full, being all the trees should

Scientists have determined by careful experiments that a man can barely taste 3-1,000ths of a grain of augar, 1-1,000th of a grain of salt, and 5-10,000,000ths of a grain of strychine.

#### SOME SENSIBLE SUGGESTIONS.

To the State Board of Viticulture

Chief Executive J. H. Wheeler, Esq. GENTLEMAN:-As suggestions have been invited from grape growers and wine makers, I beg to contribute the following facts and plans for the general good of our great industry.

The people of this great are essentially a religious, and no doubt like to see all their industries established on a solid basis in conformity with their religious belief. The first ministers of the Gospel in California very wisely followed their master Christ, and became the first grape growers and wine makers in our State of California, making and drinking as good wine as the old Mexican vine (the Mission) could make. In those early days they could get no better stocks, but as far as they could they obeyed the Lord. "Wine is the new testament in my blood; every one of you drink wine." If their successors, the reverent gentlemen of to-day would only do the same, and distribute a cop of California wine to every church member every Sabbath, the 60,000,-000 people of this Union would be all the healthier for it, and there would a good market for all our wine, while Christian temperance would drive "Tyrannical Pro hibition" out of the world. History tells us that when God Almighty chose the best land in the world for His chosen people he selected the fand of the vine and the olive, and then turning out those savages who had disgraced humanity there, by even worse crimes than toose of the Indian tribes who formerly owned California, God planted His people as a nation of viticulturists and wine makers. He gave them special laws of viticulture, What to plant, (i. e. choice vines, &c., &c.) How to prune, (i. e. to cut out barren branches, and to pinch and thin the fraitful branches) and most important of all He ordered the vineyerds to go unpruned and wild every seventh year so as to restore power to the worn and roots and to create new roots, and thus to prevent those fearful diseases, phylloxera, chlorosis, phoma, &c., &c. by using the following system which is a welf-known law of all vegetable oultore - (Lev. XXV).

The neglect of God's law in Europe by the half Christian people of that continent, produced, as we all know, awful disease and destruction of the vines-mainly for want of following the vincyards-and one Legislature should have forescen the need of imparting experienced men from Europe from the great agricultural coileges there the need also of issuing simple text books for the public schools, such as an ampelo graphy, classified according to the wine producing power, and specifying the soils and aspects of the various kinds, such as Hocks, Clarets, Ricaling, Burgundies, Ports, Sherry, Madeira, Marsala, &c., &c., also the great raisin grapes, and the little cornths, (miscalled currents) and then the famons table grapes that are only fit to be eaten, but will not make wine.

Then a text book on Viticulture involving of course pruning, training, grafting, planting, resistants, seedlings, hybrids, &c., &c.

Then a text book on Viniculture, giving oll the special methods for the special wines.

Instead of doing this they appointed your humble committee, giving you a mere pittance and expecting you to do work worth many millions for about \$10,000 a year, Your work stands there and will stand forever nobly done, as far and farther than you could be expected to go in the Government of an industry that will be presently madness.

worth untold millions and the Legislature should vote \$10,000 each to the faunders of viticulture. For every dollar speat the Legislature should have spent \$100, that is a million dollars. Let anybody travel old Sonoms and see long miles of vineyards totally killed, millions of dollars thrown away, because our rulers took no steps to stop it, and left you powerless to do so. Look at the destroying angel "the vine louse," marching across the country and raining homes, blasting fortunes, withering up industries, stesling the wages of the Isboring men, figure that going on as in France, and then ask what are our rulers doing? Cultivating phylloxera!

In other lands Government take steps to destroy small-pox, pleuropneumonia, and also that worse pest of all, phylloxera," and they also quarantine infection-but what steps are taken here-positively none-except to grow phyllox ra at Berkeley to acc what sort of a little thing it is.

Government has shirked all its duties and left the Haraszthys, the Wetmores, the Drummonds, the Pohndorffs, the Crabbs, the Kohlers and others to lift the industry as best they could with next to no help at all, and without power to grapple by law with the industry. There neglect is here to-day in wholesale death of vineyards that should have lived in vineyards that must be grafted to better stocks in bad wines made from grapes grown in wrong soils in vineyards in frosty mud flats, instead of on hills in claret and nock land used for mos cats and raisius, in vile pomace brand, poisoning people in low saloons, in imported German spirits of rotten potatoes to mix in fruit juices colored with poisons, and all this poured down the guzzles of miserable people till our better people aroused have rushed into a falsely called temperance movement, that is Prohibition. The real temperance movement is to follow Christ to make good wine and drink it every day as food; to plant chosen vines (Isaish V); to follow the vineyards every seventh year, so as to prevent death of the roots.

I suggest other steps to be taken are to found an agricultural college with professors of viticulture and of visiculture. Send our inspectors through all California as a vinepulice and report all disease, then if a law be passed to stamp out disease, (as in Australia), money will have to be voted to pay for the vines that are destroyed.

Issue the school text books as named, and support a vice and wine gazette (is like the MERCHANT) to report progress. Found a State nursery to distribute clean and noble stocks suited to each climate of California, a branch nursery at Fresno would meet the wante of Southern California, and the sales from these would pay expenses. This is really a lederal husiness. The Union will get more good by founding good vineyards and by growing wholesome wines, than by spending millions in fortification. To issue text books for the whole Usion would teach the rising youth how to plant, to prune, and to cultivate all kinds of grapes, olives and eitrus fruits, and to ripen wholesome wines for export.

Mr. Wetmore speaks rightly when he says vineyardists should take up the temperauce movement and prove wine is a vital food for man's body as Christ decided it to De. "There is nothing that entering into a man can defile him, what comes out of a man that is what defiles him, for out of man's heart came drunkenness, gluttory, &c., with their ends mischief, misery and

Found also a State wins cellar, not a mere experimental one like Berkeley, but a cellar capable of selling whole craps from different parts of the State, so as to prave the wine power of the different soils and counties, and to make known our wines among the Eastern States, Canada, England and the world.

It seems to be thought by many "the bigger the vineyard, the better the wine,' History says: Good wine only grows in small lots anywhere, or " the noblest vintages are the growth of little vineyards." A central celfsr by making known choice viatages would do much to drive foreign wine out of America. I thought it best not to disturb this essay with any disputes, as the heresies of falsely called Christian temperance could be exposed - people who paint human sepulchler white outside with Prohibition, but leave the sinful hearts all autouched within.

Hoping these suggestions may help you and our California industries, I am Gentle-

Yours truly, J. W. TREADWELL.

FALCONHURST VINEYARD,

SONOMA COUNTY, CALIFORNIA.

[P. S.] This mail tells us that the Province of Victoria has just quarantined all fruits, vines, grapes, &c. from New South

#### THE MARTINEZ WINERY.

Although the meeting called for the discussion of a winery last week, did not draw as large a number os was desirable, a full interchange of views was had, and it was plainly shown that the enterprise was one of the pecessities that circumstances will soon force into existence any way. Probably a thousand tons of graves will be produced in the immediate vicinity of Martinez this year, a large portion of which must be converted into wine. The local wineries will absorb a portion, and the rest will be sold away for what they will bring, unless a plant is soon started here to furnish a market for them. A committee was appointed at the meeting to prepare the papers for incorporation, and submit the same for subscriptions. Messrs. L. C. Wittenmyer, James Kelly, H. Rasp and E. A. Smith form the committee, and no better selection could be made. A cooperative winery, and eventually a cappery and other branches naturally growing out of it, is the most promising industry that has yet been suggested, and if the people of Martinez realize its importance to the town, there will be no such word as fail this time.

#### Australian Incubators.

In Australia and the neighboring islands are seen many large mounds of earth which were formerly supposed to be the tombs of departed natives. These remarkable tumpli, reaching as much as fifteen feet in perpendicular height and sixty feet in circumference at the base, are not the work of man, however, but are now known to be the incubators built by the jungle fowl and other species of the small family of megapodidæ, or great footed birds. these great piles consists of fallen leaves, grasses, etc., which the birds deposit in piace by throwing backward with one foot-Though the mounds are usually in deuse shade, the decaying vegetable matter has been found to raise the temperature at the center as high as 95 degrees. The eggs are carefully placed with the larger end up, about twelve inches sport, and are all covered to a depth of at least two or three feet.

#### THE FUTURE OF CALIFORNIA.

A reporter on the Los Angeles Tribune took occasion to interview Hon. Blanton Daucan, of Kentucky, during his visit there, and here is a part of the talk:

In the next decade millions will come to the Pacific slope, unequaled in its climate, its soil, its varied productions. In my travels I have seen nothing to surpass it. California is an empire in itself, perfectly independent of all the world, and will be able from its own resources, to cope with any nation on the globe. It is almost like the flash of Aladdin's lamp to witness the won lerful transmutation and development of the past three years.

While many northern focalities are icebound, and the marrow almost freezes in one's bones, here at this seeson, in the open air, flowers of most gorgeous has and variety, and magnificent trees, equal the tropics in profusion.

Strawberries, letuons, oranges, capliflowers, peas, and every description of Vegetables are daily gathered in the fields. Tomatoes grow into trees in some localities, and continue to bear their fruit, regardless of season or necessity of replanting. The orange trees, loaded with fruit, are also covered with blossoms. The thermometer ranges from 65° in the day down to 35° at night.

This generation will witness an impour, which will produbly make California the empire atate. New York will soon be brought within four days of San Francisco; and families with moderate means will leave Siberian atmosphere for one which far surpasses the Italian Riviera, or ony other European resort, which during this century has attracted the richest of fand. There is room for 50,000,000 people on the Pscific slope, with a development of material wealth and resources sufficient to keep pace with any influx, which the whole power and capacity off all the Pacific lines may be able to transport.

#### SOME ENORMOUS SALARIES.

Some interesting figures in regard to salaries have been elicited in a suit now in progress in Brooklyn against a bakingpowder company. It was shown that the president of the company draws a salary of \$50,000 a year, the vice-president \$30,000, and the treasurer \$6,000. The president of a paint and varuish company, who was introduced as an expert in regard to salaries stated that the superintendent of his company received \$50,000 a year, while the yearly business did not exceed \$3,000,000. Another witness stated that in companies with which he was acquainted, the chief executive officers received from \$5,000 to \$50,000 a year, while a representative of a keroser e oil company said that he knew one officer of a large corporation who received a salary of \$30,000 a year, and two others who received \$20,000 each. These figures are enormous, and were unknown until the days of trusts and combinations. The explanation is furnished in the testimony of one of the witnesses, who said that the business of the company with which he is connected had been increased ontil the profits had reached 450 per cent, on the original capital stock, - Boltimore Sun,

THE TOTAL vote of the United States in 1884 reached 10,148,061, but for 1888 the total is expected to pile up close to 11,000, -000. The larger fraction of the expected increase of 1,000,000 will be composed of native born young men, who will cast their

#### OUR WINE SHIPMENTS BYSEA.

PER P. M. S. S. CO'S STEAMER COLIMA, JUNE 30th, 1888.

TO NEW YORK.

MARKS.	MARKS, SHIPPERS.		GALLONS	VALUE
G	J Gundlach & Co	70 barrels Wine	4.040	27.4000
		10 puncheons Wine	$\frac{4,943}{7.230}$	\$1,920 2,895
A V Co		150 barrels Wine		2,900
B D & Oo		140 harrels Wine	6,×60 1,276	361
FA	Lachman & Jacobi	25 barrels Wine	1.269	423
J B, in dlamond		4 half-puncheons Wine	251	190
L	Carpy & Co	10 barrels Wine	511	179
Z		60 barrels Wine	2.940	1,176
In diamond	64	1 half barrel Wine	26	113
F P	- 4	10 barrels Wine	486	195
КВ	44	5 barrels Wine	245	186
C	• 6	25 barrels Wine	1.213	620
HOM	Napa Valley Wine Co .	3 Larrels Wine	150	82
G & Co	A Greenbaum & Co	75 barrels Wine	3.760	1,563
in diamond	Kohler & Van Bergen.	150 barrels Wine	7,446	7,446
3 B W	11	3 cases Wine	į	15
av Clark	Cal Transfer Co	78 harrels Wine	4,630	2,300
W & Co	S Lachman & Co	2 harrels Wine	'	
14	14	3 half-barrels Wine	178	160
P	Trapoli, Berges & Co	56 barrels Wine	2,678	951
			188	339
	Williams, Dimond & Co	2 barrels Wine	80 10	62
RS	"	1 keg Wine	10	,
S.,	1 11	53 barrels Wine	0.026	1.000
44	14	5 half-barrels Wine	2,236 268	536
**		11 packages Brandy	1.022	425
8 & Co	1 1	25 barre's Wine	1.022	425
S & Co T W J H		17 barrels Wine	720	300
Total amount of Wine,	3 cases and		51,237	\$26,C15
Total amount of Brandy			456	875

#### TO CENTRAL AMERICA.

· · · · · · · · · · · · · · · · · · ·		
E M P, Acajutla  Cabrera, Roma & Co.,   1 barrel Wine	301	20
J A O, Acajutla Urrela & Urioste 4 kegs Wine	40	30
	100	75
A V, Acajutla 10 kegs Wine 2 cases Wine 2 cases Wine 5 kegs Wine 5		103
M A V, Acajutla 5 kegs Wine	52	27
R G, Corinto Sperry & Co. 4 cases Wine	10	18
C B, Acajutla Montea egre & Co 1 keg Whiskey	10	25
R D O. La Libertad John T Wright 12 cases Wine		36
T C. La Libertad	70	65
"   l keg Whiskey	30	115
J L, San Jose d Qunt J Gundlach & Co 2 half-barrels Wine	55	43
H I, Acajutla B Drey fus & Co 2 barrels Wine	100	140
A C D, Acajutla 5 half-barrels Wine	135	120
A Z & Co. Acajutla Kullman, Salz & Co 2 kegs Wine	20	12
F S. Champerico Eug de Sabla & Co 6 kegs Wine	60	46
_		
Total amount of Wine, 14 cases and	670	755
Total amount of Whiskey	40	140

#### TO MEXICO.

F H Mazatlan. A K Stevens. 1 barrel Wine.  B B " Tbannhauser & Co. 20 cases Wine	. 1 50	. 60
B H & Co " Tbannhauser & Co 20 cases Wine	180	113
Total amount of Wine, 31 cases and		

#### TO PANAMA.

L F Lastretd	10 cases Wine	840

#### MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSFL.	RIQ.	eallons.	VALUE.
New Zealand	11 14 11	Steamer	790	150 40 220 10 574 571
•			2,774	

1.605 \$28,640

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#### THE VINE AND ITS FRUIT.

(Continued from page 86.)

In continuation of the subject in the latest issue of the Vineyardist, Dr. Me-Carthy says:

The Greeks and Romans worshipped the god of wine under the name of Bacchus or Dionyaus. In these fictions he was regarded as the son of Japiter and Semele a daughter of Cadmus. These ancient people ascribed to wine a number of offices and ra lated very many achievments, which he is said to have accomplished. Among the things for which he was celebrated were his advancement of morals, legislation and commerce. He, too, was a cultivator of the vine as well as a patron of the honey bees. Nor was that all-he was renuwned for his military expeditions in the distant Indies, with an army composed of men and women. The worship of this mythological divinity originated very early it is thought in India. In his numerous marches he is supposed to have extended the cultivation of the vine; hence to him the grape vine and the ivy were especially ascred. Goats were offered in sacrifice at the altar of Bacchua, because they were injurious to the vine. But alas! Bacchus was not the god of virtue and sobriety surely for the festivala which commemorated him among the Greeks and Romans became wild and licentions orgies, and were finally on that account abolished in Rome by the Senate in the year A. U. C. 568. The oldest representatives of the god Bacchus are much more dignified than those of later times. By the poets and artists of antiquity he was exhibited as a hardsome boy, resembling a female in natural refinement of expression; but in after times ha is found represented with swollen cheeks and bloated body, and after crowned with ivy and vine leaves, holding a wine cup in his hand and attended by a panther. Sometimes he appears holding in his hand a cluster of grapes. At another time he figures in scripture and bas-reliefs as a bloated young man borne by satyrs and attended by cupids and Bacchauala, and then again he is seen in chariot drawn by tigers and leopards or panthers. The moral of this old mythology seems to be that in the handsome boy Bacchus, the vice and its fruit are represented as harmless and

drawn by tigers harnessed to his chariot, we have the bad side of the vine business, a side which every one admits to be possible. The Greek were great cultivators of the vine. It is true that as a people, they lived simply; especially is this statement true of the Lacedemonians who were so frugal that they would not allow among them professional cocks. The Athemains also lived moderately, but perhaps it was because of the unfruitfulness of the soil of Atica. With them, water mixed with wine was the common beverage. The Greek word which is used to signify a drinking cup is one that means to mingle, which clearly shows that they mingle something with the water they drink. There were in use among them two kinds of wine-the strong, which would bear a large dilution with water, and a weaker kind, which was used unmingled. To drick the unmixed (the strong) in their common parlance was 'to drink like a Scythian." They used also the sweet unfermented juice of the grapethe mustum of the Romans-the Glenkos of the Greeks. A drink was prepared by them which was an unfermented wine inspissated by boiling. The Greeks, though more temperate than the Romans had of wines a great variety, whose names and quality were derived from the localities where they were produced. Besides they imported wines from Asia and from Egypt. And no gentleman's residence was considered completa which did not have its wine cellar. We speak of this not to commend their wine drinking and drankenness, but to show how long ago the grape was raised and used.

#### The Olive in California.

The extensive cultivation of the olive in California promises to make the State as noted for its productions as the countries along the Meditterraneac. Thousands of trees are already in bearing, and every year sees the number augmented. The making of oil is already a considerable industry, and the local product has almost entirely usurped the place of the imported pickled olive in California markets. In a few years California olives and olive oil will excite as much attention in the East as our raisins nourishing, but in the bloated young man and wines do at present-Oceanside Journal,

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#### TREATMENT OF MILDEW.

At the National Viticultural Convention, held at Macon, France, in October, Mr. Battanehon presented a report on the treatment of mildew in 1887, from which hedrew the following concissions:

- The meteorological conditions which have accompanied or followed the treatments have undoubtedly played an important part in the results obtained.
- 2 The induence of these conditions is more or less important according to the situation, exposure and care of the soil in the vineyard; the better the soil, the better the vineyard, in elevated locations exposed to the winds, the better are the conditions,
- Preventive treatment ought always to be recommended; following the local and climatic conditious, they should be made towards the end of May, and in all cases before the 15th of June.
- 4. In order to insure good results it is necessary to repeat the treatments at least three times, when the conditions are the most favorable, and often four or even five times.
- 5. Eau celeste of various strengths, Bordeaux mixture, either according to the old or new formula, the simple solutions of solpate of copper or those containing carbonate of soda, should be further experimented with before we can pronounce apon their relative values.
- 6. From experiments already made, it appears that the sulphate of copper in the solutions should not be reduced below a certain per cent. Beginning with weak solutions early in the season while the caves are yet tender. Later when the caves are fully developed, and in consequence, more resistant to the caustic action of the copper sulphate, solutions containing a greater per cent. of this salt may be used.
- Finally, whatever may be the liquid mployed only good spraying machines or ramps should be used to apply them.

FROM F. L. SCHIBNER C. S. MYCOLOGIST.

Communications from Mr. F. L. Scribner

U. S. Mycological department:

"In an article published in Le Progres tyricole et Vilicole April 29, 1888, in an rticle entitled "The Mildew, Black-rot ad Cootnibyrium in 1898." M. Degrelly, as director of the journal, says: From the ports which I have received, it appears:

1. That in 1987, liquids have, in general iven better results than powders.

- 2. That in the south-east, the process, hich, with few exceptions, has given the est results in ena celeste.
- 3. That, in the region of the south-west
  as Bordeaux mixture holds, in general, the
  rat position.

That, in resume, can celeste and the ordeaux constitute two excellent processes treatment.

The efficacy of both these processes is asidered as absolutely demonstrated, and is thought that, when properly applied ey ought to give everywhere, nearly usl results.

The value or efficacy of the powders is a cettion yet to be determined.

In giving the formula for eau celeste, M. grully adds in a foot note (p. 566.) "At officit treatment, which is made while the are very young and tender, eac este has sometimes occasioned slight roing of the foliage. One may avoid a by preparing the compound in a differmanner: Alter having dissolved the phale of copper, (1 lb. in a gallon of will give the larly known.

a time, until all the copper is precipitated, The figuid is then turbid and of a el-an blue color, add water (several gallous) and let stand to settle. Then pour off the clear liquid which contains sulphate of ammonia-the compound which causes the burning of the leaves Then pour ov r the precipitate left in the vessel, enough liquid ammonia to dissolve it. The result is of a clear beautiful deep blue color. (Dilute this with water to make 22 gallons.) Among the processes which have not been applied on a large scale but which are interesting to try is the ammonical earbonate of copper, solution proposed by M. Fostine in Progres Agricole 2nd Vol. of 1887 b. 114. Carbonate of copper is a very fine and light green powder which manufacturing chemists can furnish cheaply and in abundance to viticulturists. The preparation is made as follows: In a two quart bottle furnished with a close fitting stopper, put I quart of liquid ammonia, and 3 oz of carbonate of copp r, shake well, when the carbonate will dissolve in the ammonia a forming liquid of a b autiful deep blue color. When required for use dilutes to 22 gallous.

The advantages claimed for this preparation are,

- 1. Extreme case of preparation.
- 2. Perfect adherence, even greater than that of ean celeste.

In experimenting one may increase the amount of the carbonate of copper to 6 or even twelve oz Formula of M. G. Perboyre (Progres Agricole 1887 and 1888 1st vol. b. 368.)

In one vessel dissolves 2 lbs. of sulphate of copper in a gallon of water. In another vessel dissolve 1 lb, of carbonate of soda in a gallon of water. Mix the two solutions and dilute to 44 gallons.

Formula of M. Massons.

1st. 2lbs, salphate copper, 2 lbs, carbonate of soda, 22 gallous of water.

2ud. 4 lbs. sulphate of copper 8 lbs. Dissolve the sulphate in 2 or 3 gallons of hot water and while the solution is yet warm, and the crystals of, soda little by fittle. Dilute when required for use.

#### CHARLOTTESVILLE, VA.

Hon, H. L. Lyman,

DEAR SIB:—Your favor expressing willingness to repeat the experiments of last year in the treatment of grape diseases is at hand. The remedies to be experimented with are ean celeste, bordeaux mixture and sulphatine.

1, Eau celeste, 1 lb. salphate copper, 1½ pints liquid ammonia, 22 gallons of water.
2nd. Eau celeste, I lb. salphate of copper, 1 lb. ordinary carbonate of soda, 1½ pints of ammonia 22 gallons of water.

Dissolve the sulphate of copper in a gallou of water; in another vessel dissolve the carbonate of soda, then pour the two solutions together and when all chemical reaction has ceased, add the ammonia dilution, 22 gallons with water when required for use.

Bordeaux mixture (1)—Sulphate of copper 9 lbs, lime 4 lbs, water 22 gallons.

#### What Are You?

Put down in figures the year in which you were born; to this add 4; then add your age at your next birthday, provided it comes before January 1, otherwise, your age at last birthday, multiply result by 1,000; from this deduct 677,423, substitute as A for 1, B for 2, C for 3, D for 4, &c. The result will give the name by which you are popularly known.

#### MISCLE-FORMING FOOD.

"What is the best food for producing muscle?" This question of our correspondent is a legitimate one. Some foods are particularly muscle-formers; others produce fat, and still others brain and nerve, while most of the common articles of diet combine these uses in varying degrees.

But the question, to cover our entire physical needs, requires to be broadened into this: What combination of food will best nonrish the body? Even then the suswer must be modified to suit individual cases. For the digestive power differences. For the digestive power differences, an interdependence between the different bodily organs and tissues, so that the body must be built up as a whole. If one part lacks, the whole suffers, and if one part is overled, the oth rs will be underfed.

Thus a person who becomes unduly fat, loses in muscular fibre, either in quantity or quality. One who overfeeds the brain loses in muscular strength. So, too, muscular development may be carried to such excess as to impover in the brain, and also to reduce the fat of the body below what is necessary both as surplus food faid up for emergencies, and as a protection against sudden changes of temperature.

The hest food for producing muscle, therefore, must, while being duly appetizing, contain a large percent. (1) of nitrates for the muscle, (2) of phosphates for the brain and nerves, and (3) of carbonates for the fat.

Of the first-class, tha nitrates, beans stand at the head at twenty-four per cent., then peas at twenty-two; cabbage and salmon at twenty; oats at seventeen; eggs and veal at sixteen, and beel at fifteen.

Of the second class, the phosphates, salmon stands first at seven; then codfish at six; beef and eggs at five; beans and veal at four, and cabbage, peas and oats at three.

Of the third class, the carbonates, butter stands at the head at one hundred; rice at eighty; corn and rye at seventy-two; wheat at sixty-nine; oats at sixty-six; peas at sixty; heans at fifty-seven, and cabbage at forty-six.

Fresh codfish fried in fal or served with butter gravy about equals heef in all re spects, and so do eggs fried in fat. Beef with cabbage makes a very nutritious diet. But we must add:

- The mere eating of food can not make muscle. The muscle must be called into vigorous daily exercise, yet without overdoing.
- Excessive enting is weakening, and must be avoided. It is the amount digested and assimilated that tells, not the quantity taken into the stomach.
- All the laws of health must be steadily observed.—Ex.

#### TARIFF HILL AMENDMENTS.

The following is a complete list of the smendmeots made to the Tanff bill by the Democratic cancus. In view of the resolution adopted which binds all Democratic members to vote only for these amendments and such additional ones as we are recommended by the Ways and Means Committee, the list is an important one. There were added to the free list: Bags of jute for grain, Paris green, nitrate of soda and German looking-glass plates. There were stricken from the free list Glue, give it a push.—Er.

gelatine and all similar preparations, fish glae or isinglass, licorice juice, bone black, ivory black, drop black, bone charcoal, china clay or kaoline, plums, prones, figs, hatters, furs not on the kinds in blocks. rough or squared; plaster of paris when ground or calcined, paintings and statuary. These articles were restored to their pres eat duties except in the cases mentioned below. The duty on licorice paste or rolls is raised from four ceuts (in the bill) to five cents a pound; on licorice juice put at 35 per cent ad valorem, on kaoline, ernde, raised to \$1 per too; on china clay or koaliue, wrought, \$2 per ton; on green and colored glass bottles, vials, demijohus, pickle or preserve jars and other plain, molded or pressed green or colored bottle glass not cut or painted, raised from threefourths of a cent to one cent a pound; on unpolished cylinder, crown and common window glass larger than 16x24 inches. raised from one and one half to two cents a pound, on slabs and billets of steel, restored to \$17 a ton; on iron or steel with lougitudinal ribs for the manufacture of fences, made four-tenths of the cent per poond; on wood serews, restored to pres. ent rate: an new type, reduced to fifteen per cent ad valarem; so rice flour and rice mest, reduced from twenty to fifteen per cent and valorem; on bagging for cotton, composed of flax, hemp, jute, gunny cloth changed from fifteen per cent ad valorem, to three-eights of a cent a pound; on carpets, increased from thirty per cent to forty per cent ad valorem: an card clothing, increased from fifteen to twenty cents per square yard; on india rubber fabrics, india rubber boots, restored to present rate, and on marble, increased to forty cents per cubic foot.

#### A NEW ENTERPRISE,

The people of Mesa Grande are about to start a good and profitable enterprise. They have organized a company, or have formed a corporation, to build a winery and fruit canning establishment. Already \$10,000 has been raised, which is nearly half of the stock to be subscribed. This enterprise is what we call business. It is just what we used in these mountains, and the people here have started the ball rolling. For fruit these mountains have no equal-all kinds of fruit grow here without irrigation, and its flavor is far superior to that raised by irrigation. Now, every fruit grower ought to take stock in this enterprise, for it directly or indirectly interests every person in these mountains; it is better than gold mines, for it will be everlasting; such a corporation will establish a market; this market will bring us more settlers, and then we will rank among the prosperous. Fruits and wines will always have a market, and these mountains can produce enough fruit to feed millions of people. It will only be a matter of time when there will be three or four such establishments located in this section of the country. People are already flocking in here buying land, and their main object is fruit raising. This year these mountains will be represented at all the Southern California fairs, and the world will be astonished to see what fine fruit can be raised in San Diego county. So everybody buy stock, if it he only one share; every little helps, and before many years we will eujoy prosperity, and the territory of the mountaineers will be one of the finest spots on earth. We have the finest soil. water, climate and everything to make a country. While the ball is rolling let na

#### OLIVE CULTURE AT CAPAY

In the near future the plive and olive oil industry will be a prominent one in this lovely valley. All of the conditions necessary to the production of this most important article of commerce in perfection are found there. It will not be an experiment, for olive trees may be seen gowing in many parts of the vulley to-day, and there is no spot in the world where the climate is more congenial. What can be done in the way of ofive culture has been demonstrated in different localities in the State, notably in Santa Barbara county, by Mr. Elwood Cooper, who has there a grove of 6,000 trees that yield him annually 5,000 bottles of the finest oil, which he sells readily at \$1 per bottle, equal to \$50,000 pr \$1,000 per acre, there being usually about 125 trees to the acre. There are instances where the receipts for an acre of plive grove in California have renched \$2,000. What has been done in Santa Barbara county can he done in Capay valley, for there is nothing lacking to secure the same, if not better re-

#### A PERMANENT INDUSTRY.

When a olive industry is once established in a country it becomes a permanent one, and is capable of supporting an enormous population. In the country bordering on the Mediterranean it employs the industry and furnishes the entire support of millions of people.

The touching story of the flight of the dove from Noah's ark proves the existence of the olive tree in the earliest period of the world's history. It was saved by the Almighty from the destruction of the deluge and a branch of it was carried by the dove to Noah as a token of forgiveness. It was a celebrated tree among the ancients and held the first rank in their mythology. Minerva taught the Athenians how to prepara the fruit, and they had a most religious respect for it. The Romans used the wood not only as fuel, but on the altars of their gods as an emblem of peace.

#### PROPAGATION AND YIELD.

The olive tree belongs to the jasmine family, with evergreen foliage and blossoms in clusters. It can be propagated in many ways, but the best way is by plant ing the seeds. This method is rarely followed in this country, however, as it grows readily from cuttings, like the willow, and will bear in eight or ten years. From this time forward the yield increases with the growth of the tree, which in favorable soils grow to immense size. There are many olive trees standing in Enropean countries to-day which are over a thousand years old and still bear fruit. In France the yield per ucre is calculated at about 1,250 gallons. Judging from the crops picked from the young trees in California it is fair to assume that owing to a more even climate and superiority of soil the yield will be much greater here than in France, when our trees have reached maturity.

In Italy, Spain and the south of France there are 8,000 acres devoted to olive trees, and about 180,000,000 gallons of oil are produced, to say nothing of the immense quantities pickled. The vil made in France reaches 100,000,000 gallons annually, of which 500,000 are imported annually into the United States. In California there were only about 1,000, acres in olive trees up to the present season, when the area devoted to this fruit was largely in-

olive culture will become a leading industry on this coast and yield an immense profit feet high. No animal could get through to the producers.

#### TRICKS IN THE WINE TRADE.

Two Parisians named Berard and Fourcade have just been s. utenced to six and twelve months' imprisonment, respectively, for having practised a series of very ingenious frauds on keepers of public houses in the metropolis. They were in the habit of visiting the landlords and offering them barrels of excellent wine at greatly reduced prices. The liquor which they gave the publicans to tasts was superb and the hargain was generally concluded on the spot. A few days afterward the unlucky dealer found that the wins which he had hought was detestable. Since their conviction the men have made a full confession. Berard used to keep a small bottle of good wine up his sleeve, and when he made a pretense of filling the glass from the barrel he was in reality giving his enstomer the contents of this hottle to taste. The trick was carried out with considerable address, and was never detected by his dupes.

Another "dodge," to quote his own expression, was to pour into a barrel of 200 litres, forty litres of first-class wine. The remainder of the barrel was then filled up with water, slowly inserted by means of a pipe. The wine remained at the top, the barrel was pierced high up, and the buyer was again persuaded to taste the liquor to show there was no deception. Delighted with his hargain he put down the money then and there, only to discover after a brief lapse of time that he had been cheated outrageously .- Cor. London Telegraph,

#### THE SANTA CRUZ VINEYARDS.

The Courier Item says: In company with J. B. J. Portal, the well-known viticulturist of Santa Clara county, an investigation was made last week into the condition of the grape crop of the county. By inspection and inquiry the status of the greater portion of the vineyards of the county was ascertained, and we are pleased to report that '88 in Santa Cruz county promises a good vintage. Mr. Portal places the vintage prospect as "fair." Our personal opinion is that the crop will be better than his estimates.

Comparatively speaking, there is no evidence of damage by the winter's frosts. The young vines promise well in every vineyard. There is still some possibility of loss from coleure, but taken altogether the grape growers can look forward hopefully to the vintage.

There is at present about 100,000 gallons of wine on hand in the county, of last year's production of excellent quality, and each year confirms the prophecy made years since in these columns, that for wines of the Bordeanx type, Santa Crnz would one day be famous.

#### DATE PALM FENCES.

We have avenues of date-palm in this State, notable the one on Col. Hollister's place at Santa Barbara, but we are not aware that any one has tried setting the plants closely enough together to form a fence or hedge, and yet this has been done in Florida, and a writer in the Dispatch of Jacksonville, says: "Mr. J. C. Thorpe of Sanford, then of Orange City, some ten years ago, transplanted into a row some creased. It is only a matter of time when little date-palms he had, and now they are ferment.

something like two feet in diameter and ten the line. Their exquisite, creamy white blossoms have appeared for one or two years past. Think what a sight a close row of those palms would he, one pushing this way, another that in the upward struggle for light and air." It would be easy to try it in this State. All it needs is patience to wait for them to grow. The plants can be easily secured in quantity by planting the seed of the commerce in boxes of sandy soil. If kept moist, they germinate readily, and in the warmer parts of the State they grow quite rapidly. They should be potted off separately, and planted out a year or two later.

#### Wrongly Named.

The tuberose is no rose, but a species of olyanth.

Pompey's pillar had no historial connecion with Pompey in any way.

Cleopatra's needle was not erected by the Egyptian Queen, nor in her honor.

Whalebone is not bone, and it is said not to possess a single property of hone,

Turkish baths did not originate in Turkey, and are not baths, only heated cham-

German silver was not invented in Germany, and does not contain a particle force. The work should be done before of silver.

Black lend is not lead at all, but a compound carbon and a small quantity of iron.

Brazilian grass never grew in Brazil, and is not grass; it is nothing but strips of nalmleaf.

not come from Burgundy; the greater part raisin statement, crop 1888-Stock on hel of it is rosin and palm oil.

#### OVERLAND WINE SHIPMENTS.

The shipments of California wine overland in the first five months in the year, reduced to gallons, were as follows:

	Jan. 1 to
May.	May 31.
San Francisco, galls 189,913	1,240,549
Oakland	1,251
Lo+ Angeles 33,929	258,354
Colton 71	3,649
Sacramento 50,618	185,077
San Jose 9,902	56,212
Stockton 247	3,125
Marysville 10	510
Total galls285,160	1,748,727

Calling the overland shipments 40c per gallon, we have the following as the money value of this branch of our export trade for the first five months of the year:

\$637,211 694,491 Totals.....3,196,234 \$1,331,702

#### A Woman Imprisoned for Debt.

The unusual spectacle of a woman imprisoned for debt is seen at Bangor, Maine, nt present, for the first time in many years. Thomas C. Stevens, a lawyer at Newport, had a lady client with whom he failed to settle, and therefore took out an execution, and on Friday morning imprisoned her in Bangor jail, putting up cash for several weeks' board for her. The woman is a widow, comes from Etna, and declares she is being wronged and swindled, and will live in her present abode for years if necessury, rather than pay more .- Ex.

A PATENT has been granted in England for the manufacture of Vinegar from tomatoes. The fruit, when ripe, or nearly so, is reduced to a pulp and steeped in water for twenty-four hours. The liquor is drawn off, augar added, and the whole allowed to

#### AERIAL TELEGRAPHY.

According to Professor Gould's invest gation, it appears that aerial telegrap wires on poles, transmit electricity at tl rate of from 14,000 to 16,000 miles p second, and that the velocity of transmi sion increases with the distance betwee the wires and the earth, or, in other word with the height of suspension; and the an' terranean wires, like submarine cable transmit with reduced rapidity. Again while wires suspended at a feeble heigh are known to transmit signals at a veloci of some 12,000 miles per accord, those th are suspended higher give a velocity from 16,000 to 24,000 miles. Wheatstone claim of 288,000 miles in his experimen appears never to have been confirmed.

#### The Vine Hopper.

A very simple, inexpensive and efficie remedy may be found in the use of conce trated lye. Vineyardists in the north s using lye with uniform success. It is: commended that two small cans of conce trated lye be thoroughly dissolved in for gallons of water, and the mixture apray npon the leaves and stalks of the vines, co being taken that the spraying he not do so as to break or injure the foliage by sunrise or after sunset. By placing a b rel npon a light hand eart it would be easy matter to spray many acres in a f hours, and at very inconsiderable expens

WE are indebted to the Weekly Con, Burgandy pitch is not pitch, and does tioner and Baker for the following: "Male April 30, 13,000 boxes; received dur; May, 2,340 boxes; total 15,340 boxes. Stor on hand May 31, 12,000 boxes; distribut 1 during May, 3,340 boxes. Malaga rais on the way-By steamer via England, ) boxes. Valencia raisin statement, crop 18 Stock on hand April 30, 60,000 boxes; ceived during May, 35,250 hoxes; tel 92,350 boxes; stock on hand May 31, 59,5 distribution during May, 35,350 bo: Valencia raisins on the way-By steam from England, 10,500 boxes.

#### BITS OF SCIENCE.

Mr. John A. Baharie has inventes novel life-saving raft, capable of aupriing ten or twelve persons. It is comped of very light materials, and folds up in a very small compass, so that it requir minimum stowage space, and can alva be kept at hand ready for immediate It is self-opening, spreading to its full exit immediately it touches the water; it shid prove of special vlane in excursion other passenger steamers, where sufficit hoat accommodation is really impracti-

An ingenious application of photogray has been made at the Chaucelade quar. near Perigneux, where an accident occurd caused by the caving in of the wall. persons were imprisoned in the rocks, id no means were at hand to rescue them. find out where they were, a shaft twis inches in diameter was bored, and in this was slid a tube, near the end of wat was a small photographic camera, rounded by a battery of electric lips The camera moved on a point so this could be moved up or down by pullicord. With this apparatus a numb of good negatives were taken .- Amateur lo tographer.

#### ALLEGED FRATES IN OLIVE OIL

Secretary Lelong, of the State Board of Horticulture, and Professor Hilgard, of the University, have been recently engaged in investigating certain alleged frauds in the manufacture of olive oil, and have attained results which amply sustain the charges made. Out of seven samples analyzed, only two were found to he pure-those from the Rancho Chico and from the Cooper farm, near Santa Barbara.

The test is made with uitric acid, a small proportion being put into a pan and sluwly heated. If the oil is pure, it solidifies into a golden or straw colored mass. If adulterated with lard and cotton-seed oil, it becomes a dark-red liquid and will not solidify. Of the samples referred to, one that is retailed at 65 cents a bottle is pure cotton-seed oil; another is 60 per cent. of that article; another is only one-quarter pure oil, and a fourth is composed of peanut and sesame oils. All of these oils are made in the State, and sold daily in the local market and are shipped Last in large quantities. Two firms here keep brands of oil that are 60 per cent, or more pure cotton-seed, retailing at 60 and 65 cents, and at the same time keep on their shelves other oil of known purity that brings \$2 50 a bottle of the same quantity.

It is suggested to housekeepers that a good test for olive oil is to place the bottle in the ice-chest over night. If it is impure, it will be of the inconsistency of batter in the morning; if pure, there will be no change in its appearance.

The names of all the bottlers of this impure oil will be submitted to the Board by Secretary Leloug, and a special committee will be asked for to take the steps necessary to break up the traffic in the impure article -S. F. Chronicle

#### THEY WOULD MIX IT.

Lonis D. Combe, the well-known grape grower of San Jose, has, by his attorneys, Crandall & Biddle, filed a complaint against the Santa Clara Valley Co-operative Wine Company, in which he slleges that in August, 1887, the defendant entered into an agreement with him by which he sold to the company his entire grape crop for that season and delivered to them in good order 120 tons of different varieties, for which he was to receive payment at the rate of one dollar a ton on each cent a gallon the wine made from the grapes should be sold for.

The defendant contrary to the terms of the contract, mixed the grapes with a large quantity of grapes of inferior quality and different kinds purchased from other parties and mixed all the wine made from plaintiff's grapes with a large quantity of inferior wine, so that the average wine made by the defendant, when mixed with wine from plaintiff's grapes, was much inferior in quality to the wine which the latter's grapes would have made. For instance, the Cabernet wine would have been worth 35 cents a gallon and he would have been entitled to receive \$35 a ton for them, and for the whole amount, \$1,448.21. The Ploussard would have brought him \$635.22; the Petit Pinots, \$254.19; the Zinfandel. Grenache and Mataro, \$980.97, making a total of \$3,318.65 that would have been due him. The company paid him \$2,272.95, and he sues for the balance, 1,045.70 and interest thereon from November 1, 1857.

Tue vines throughout Algeria have been thriving, diseases of a disquieting nature are

Grapes should be most thoroughly cultivated this month, carefully suckered and pruned and sulphured. There are two methods of sulphuring advocated. One is to dost the sulphor into the leaves when they are wet with dew. The other is to dust the sulphur into the ground under the vine on the windward side, so that the rising fumes caused by the heat of the sun will rise through the vine, permeating all parts of it. As sulphur is cheap, and there is no danger of using too much, both meth ods might safely be adopted. Sift a little over the vines and a little under. This would make a sure thing of it. Where there is any danger from mildew, we would recommend two or three times during the season, say in May, June and July. My motto for summer pruning is little and often. Never shock the vine by cutting off too much of the leaves, which are the langs of the plant. When the vines have attained a few leaves beyond the last bunch of grapes, go through with a sharp sickle or butcher knife and clip the ends of the vines. This will deflect the flow of the sap into the fruit arteries. When the laterals have attained a few feet in length treat them in the same way. Go through your vineyard several times during the season, clipping the ends of the vines .- Rural Californian

#### GRAPE-SEED EXTRACTOR

A simple and serviceable implement for extracting the seeds from grapes before eating them, and which may be made in quite ornamental patterns, has recently been patented. It has a flat pick, with a sharpened point on its end in line with the handle, a cavity in its top face, and a cutting blade projecting laterally from the pick, its point forking out therefrom a short distance within the point of the pick. The top of the grape can, with this utensil, he quickly sliced off by the entting blade, so as to uncover the grape seeds, when, by introducing the flat pointed pick beneath them, they can be readily received in the cavity and removed without injuring the edible part of

#### San Francisco Savings Union. 532 CALIFORNIA ST., COR. WEEE,

POR THE HALF YEAR ENDING WITH THIR-tieth June, 1888, a dividend has been declared at the rate of four and one-half (4%), per cent per annum on Term Deposits and three and three-fourths (3%) per cent per annum on Ordinary Deposits, free of Lates, payable on and after MOVDAY, 23 July, 1888.

#### Dividend Notice.

THE GERMAN SAVINGS AND LOAN SOCIETY, 526 Cal-fornia street—For the half year ending June 30, 1888, a dividend has been declared at the rate of four and one-half (13) per cent ter annum on Terin Deposits, and three and three-quarters (34) per cent per annum on Ordinary Deposits. Payable on and after MONDAY, July 2 1888.

WM, HERRMANN, Secretary,

#### FARM FOR SALE.

Two handred acres in Sonoma County, ten minutes drive from railroad station. Forty acres planted in the finest variety of vines. The balance rich river bottom, and rolling land capable of the highest cultivation. Several never failing springs and plenty of oak and redwood timber on the property. Good house, large barn, and out buildings. Scenery, climate and roads unexcelled. Good fishing and hunting in the neighborhood all the year round. One f the most elegant and profitable suburban homes in Northern California.

Inquire of "W. II.," office of the San Francisco MERCHANT.

#### Soil for Grapes

Do not be afraid of rich soil for grape vines. They are gross feeders, and we teration, especially in wines, the establishhave found that a liberal top-dressing of ment and defense of a trade mark that well rotted chip dirt, on naturally atrong, shall be for years the evidence of purity, rich prairie soil, has grown our finest crop quality, and fair prices, is a matter of great of grapes. Grape vines are especially fond pecuniary importance. Thus Messrs, Pohnof animal refuse. If bones, heads, or other dorff & Co. keep their "To-Kalon" conbutchers' offal, are buried two, three or stantly before the people. This word has four feet from a vine which has been a further significance in that it is the name planted two or more years, and is in good of a vineyard from which all their wines condition, the roots will soon take posses- come. It having been discovered that some sion. We have always put this advice in of their empty bottles have been refilled practice by burying all small animals which | with an inferior wine and sold with a view die (and of which, farmers have more or to injure the reputation those wines have less every year), in our vineyard, and our carned, it is well for the public that the neighbors have always expressed surprise penalty under the law for any such tamperat the luxuriant growth of our vines, and ing is a fine of not to exceed \$2,000 or two erops of fruit .- Cor. Prairie Farmer.

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Beg to call the attention of Wine Growers and Wine Merchants to the following articles, the superior merit of which has been confirmed by Silver Medals, the highest award—given at the International Exhibition of Pars 1878, Bordeaux 1882, and Amsterdam 1883, i.z.

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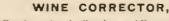


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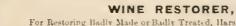


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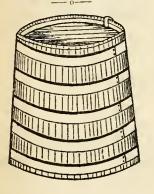
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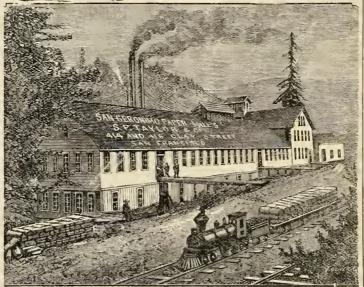
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	S.30 a	Fast Mail for Ogden and East.	10.45 ▲
2	9.00 a	For Niles, San Jose, Stockton, Galt, Ione, Sacramento,	5.45 P
v		(Log Angeles Express, for)	
r	9,30 A		12.15 P
-	10 30 A	for Haywards and Niles	2.15 P
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	4.60 p	For Stockton and Milton; for Vallejo, Santa Resa	10.15 🛦
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L	4.30 P	For Niles, San Jose and Livermore.	* 845 ₄
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VOL, XX, NO. 8

SAN FRANCISCO, JULY 20, 1888.

PRICE 15 CENTS

#### Early Viticulture in Sonoma.

BY ARPAD HARASZTBY

There is hardly to be named a plant grown on earth so endeared to man as the grape vine. From the carliest dates of sacred and traditional history it is a constant theme of mention and seemingly comes down to us hand in hand with the progress of civilization and the advance of liberty. Its product has engaged the earnest attention of ancient and modern statesmen, furnished unlimited study for the scientist, inspired the poet and given health, contentment and prosperity to the people of every country congenial to its growth.

Following the natural hant of civilizing influences, almost immediately after homes were constructed on the place now known as Sonoma, by General M. G. Vallejo and his followers, the virgin soil was tilled and the vine planted. This was in the early years of the decade of 1830. And as new tracts of land were conceded to the colonists they took with them and planted vines enough to furnish their household and servants with its luscious fruit and the production of a limited amount of family wine. The making of wine was a mere domestic contingency in those days, and we may add, continued so until the end of 1855 in Sonoma county, in which year the late Col. Agoston Haraszthy purchased the property, later called the "Buens Vista Vineyard" for the express purpose of making wine. "The Register," a statistical publication, of 1859, reckoning up the number of vines planted in California up to 1856, places the number in Sonoma and Mendocino counties, at 61,008 vines, making about seventy-five acres, if planted seven feet apart. At the opening of 1856, General M. G. Vallejo had about sixteen acres planted or 13,000 vines, of which 3,000 vines were from fifteen to twenty-five years ald. Wm. McPherson Hill had about five acres or 4,000 vines that were planted about three years. And the property just bought by Col. Haraszthy had about the same amount planted as had Gen. Vallejo. say 12,000 vines or sixteen acres. Thus there were left 10,000 vines for the balance of the valley in small lots and 20,000 for the rest of Sonoma and Mendocino, the latter being at that time included in Sonoma

not a dozen varieties, and these were like strangers in a foreign land, few and far between, Mr. Hill had purchased at auction in San Francisco on arrival from Peru a few enttings, consisting of the Rose of Peru, Italia, Chasselas and Black Hamburg, the others in the valley comprised of a few Catawbas, Isabellas and Museats, and all were planted solely for table use, the ruling grape here as well as every other part of California being the Mission grape, introduced by the Empeiscan Missionary Fathers, somewhere between the years 1769 and 1770. It was thought no other grape would grow and produce well in our climate, and as the experiment had not seriously been made to prove the contrary, this belief took firm hold and it has taken two decades to demonstrate its fallacy, General Vallejo for years had caused wine to be made from his beautiful Lachryma Montis property, but, having other large interests both in the valley and other parts of the state, he gave the matter no personal attention. Small quantities of wine had also been made in a crude way by the previous owners of the Buena Vista property, but the greatest part of the grapes grown there, as well as at the other small vineyards in the valley, invariably found their way to the San Francisco market, where they were eagerly purchased at very good prices. Col. Haraszthy bad tasted some of the wine made at the Buena Vista in 1851 and this induced its purchase for the sole purpose of creating a wine vineyard. The transfer was made at the end of the above year, and beside the few varieties heretofore mentioned, he found some 2,000 old Mission vines that were planted in 1831, 1835, 1836 and 1837; and a few of these vines were still alive and bearing about three years ago. mediately on acquiring the Buena Vista property, the new owner placed his son Attila in charge and began transferring a large collection of rooted grape vine cuttings from his Crystal Springs property in San Mateo county to their new home in Sonoms, and among the first that were thus transplanted in the spring of 1856 was our present world renowned Zinfandel grape which the Colonel had imported from Hungary, his native land in February 1852. This importation consisted of six varieties and were all rooted cuttings as shown by an original memoranda made out he 23d of

ly planted. With this lot of rooted cuttiogs there is also mentioned 150 plain cuttings, all of which were of Hungarian origin. These were permanently planted on the hillsides of Crystal Springs with other importations, but when the bearing age came, it was found that the grapes did not ripen on account of the fog, winds and extreme cold and though nearly thirty acres had been cleared and planted, in 1855 the project was recognized as a failure and abandoned. It may have been this more than any other cause that turned Colonel Harasziby's attention to the beautiful, mild, genial, weather protected valley of Sonoma.

There he undoubtedly saw a chance of the realization of his dream, to have a winvineyard in America as he had one in his native land. There are records in his own handwriting, showing attempts made in that direction in 1845, at Sauk city on the banks of the Wisconsin river. And again on March 1th, 1850, in the Mission valley at San Diego where he planted several acres in vines, and sent forth his orders to Europe for roots and cuttings. While on taking possession of his Sonoma property he found some half dozen varieties not reaching an acre in extent, and with about sixteen acres of the Mission grape, we find him reported in 1857, (pages twenty-six and twenty-seven, State Agricultural Society's 4th annual report) as having 2,000 vines planted in 1831, 8,000 vines planted in 1855, 80,000 enttings (rooted) 1856 and the number of grape vine varieties put down as 280. In the course of the following year it was found that this number of narieties was incorrect owing to the discovery then made of many duplicates, This error was rectified in the Transactions of State Agricultural Society for 1858, p. p. 242, when the whole number is given as 165 varieties, and some other corrections made in the number of vines then growing. According to this statement, dated on Oct 31, 1858, he had planted altogether \$5,556 vines in vineyard, 162,000 rooted cuttings in nursery. Of those planted in the vincyard there were 14,000 rooted cuttings of for eign varieties, which were partly in bearing. Of the cuttings rooted in nursery were 12,000 from foreign varie there Of the different foreign varieties he offered 30,000 cuttings and 2,000 rooted cuttings for sale and 300,000 rooted Mis-

that one place in three plantings in the springs of '56, '57 and '58 and covering just two years. But the example shown, and its success did not stop there but was broadcast and wide-spread. Not content with pushing work on his own place, the Colonel sought out his own friends, and induced them to become his neighbors and in a measure enthused them to the point of investing in land and planting it with vines. Thus he induced to settle around him, the late Colonel A. J. Butler, Major J. R. Synder Chas. Krug, General C. H. Williams, Wm. Hayes, Joseph Snyder, Major Csomortanyi, John Swett, Louis Tichner, Emile Dresel. Jacob Gundlach, Geo. L. Wratten and his two sons, Gaza and Attila Haraszthy, All th :sewere thus directly influenced and plantvineyards. But the indirect influence was far greater, numerous inquiries came from every part of the State and in those days apparently Sonoma was the fount of knowledge in viticultural matters, and great were the numbers of those visiting the Valley, much in the spirit of the pious Mohammedan visiting the Shrine of Mecca, seeking after knowledge or gratifying an aroused curiosity. Numerous newspaper articles had been written on the enterprise going on in vine planting in Sonoma, and on the practical demonstration made by Colonel Haraszthy on a large scale for the first time in California, that the grape vine in all its varieties would not only grow without irrigation, but would produce fruit and the fruit be sweeter and of finer flavor than any produced by irrigation. This forever settled the question of the ultimate use and value of the hillsides in northern California, The tidal wave of inquiry swept over the quiet valley of Sonoma, strangers came and went, and the Express Company and U. S. Mail were laden with letters, papers, pamphicts, cuttings and vines. Not only had the little town of Sonoma become the head center for the distribution of viticultural knowledge but it suddenly became the supplying grape vine nursery of foreign vines for the whote state of Cidifornia. It was from here the Zinfandel was distributed to the four parts of the state, prior to 1858, so likewise the Peher, Szagos, the Block Prince, the Flame Tokay, the Black Morocco, the Museat of Alexandria, the Emperor, the Seedless Sultana, the Chasselas, the Ricaling, the Gutedel, the Traminer, and numerous othcounty. In all this number there were Marce, 1852, after they had been temperarisions. This progress had been made on ers. In 1858, at the urgent request of the

ral Society. Colonel Haraszthy wrote a lengthy article covering every detail in the setting out of a vineyard, and its practical management from the digging of the holes for setting out the vine to the gathering of the fruit. And in wine-making, from the picking of the grape, the crushing and fermentation, down to its absolute maturity. This article was published with the proceedings of the State Agricultural Society for the year 1858, and is as valuable to day, as it was in those days of seekers after knowledge groping in the dark. A very large edition was published and exhausted, and the report spread throughout the state, made new converts to the fascinating and and promising pursuit of vine growing and wine-making. The vines in Sonoma hegan to spread from the edge of the springs and hanks of the streams, and throwing out their yearning tendrils, clutched at the rising distance creeping eagerly up the sides of the nearest hills.

And this recalls Tommy Nau and Hamilton and Wise and Whemquartner and Csomontanyi, who perched themselves and their modest plantations on the lefty hills around, and smilingly and peacefully looked down on the beautiful valley below, contented with their work, and happy in their homes.

In 1861 a commission of three was appointed by General Downey to report upon the ways and means of improving the Culture of the Vine in our State and the making of wine. The Commission consisted of Col. Agoston Haraszthy, Col. Juan J. Warper and a Mr. Shaw. The latter went to South America and never reported. Colonel Warner made an excellent report on the conditiod of vine culture in our State. And Colonel Haraszthy visiting all the noted wine districts of Enrope and making an ample report to the Legislature, brought back to Sonoma a collection of vines of every attainable variety and catalogued under nearly 500 names. There were over 200,000 cuttings and coming at the end of 1861 were in time for the spring planting of 1862. Sonoma once more revelled in the glory of renewing its importance as the vine pursery for the whole of the State, The interest in vine planting reached its highest point towards the opening of the year 1863. All those in the valley who had vineyards planted more vines and those who had none planted just to see if they woold grow. And yet many were the sneers that went forth, and many the evil prodhecies by the over cautious, the unenterprising the envious and the malicious.

The new vineyards began bearing fully in 1862, but there were no cellars, no tanks, no crushers, no presses and hardly any casks. Those who now see our magnificent appointments in this line, and who had not aeen the straights the wine-maker of those days was put to, can in no possible way realize the vastaess of the change. The only crusher in the valley in 1862 was that attached to an ordinary sized eider press. It was impossible to run through seven tons in twelve hours no matter the number of men exhausted in the attempt. It was in that year the first stone cellar was built in Sonoma valley and the first red wood tanks made for fermenting and storing wine. These were constructed at the Buena Vista vineyard. The tanks were each of a capacity of about 3,000 gallous and were looked upon as monsters in size. In 1857 three tunnels were dug through the soft the vines began to come into bearing more cream colored rock of the mountain and freely, which took place in 1864, the owners VIII by Pops Loo X, accompanied by the Horn.

ground. These were intended for the storage of wine, and in 1862 a large fermenting house was built in front of these tunnels, from the rock taken out. In 1863 three additional tunnels were excavated. In 1857 wine making in Sonoma was confined almost exclusively to General M. G. Vallejo and Colonel Haraszthy and the amount made was very limited. The latter in that year reports having made 6,000 gallons of wine and 120 gallons of brandy and it is likely that General Vallejo made a similar amount. In both cases, however, most of the grapes were sold for table use in the San Francisco market where they brought ten cents per pound or \$200 a ton.

It would take too much space to follow the extension of the vineyards from 1856 to 1863, but to give some appreciation of the result attained in the face of every adverse contingency, want of knowledge, lack of laborers the high price of vine cuttings, a deficiency of capital and a rate of interest that fluctuated from 21/2 to three per cent, per month and compounded each month, we here give the names of the pioneer vineyardists of Sonoma valley, who listened to the persussion of the owner of the Buenn Vista and lead on by his enthusiasm. To these names we add the number of acres respectively planted by each holder up to and including the spring plantations of 1863:

	NAMES.	ACR	ES.
	Haubert		20
	Chas, Luttgen		4(
	Dresel & Gundlach		130
	Louis Tichner		40
	Gen. C. H. S. Williams		120
	John Swett		40
l	Attila F. Haraszthy		35 28
ı	Gaza Haraszthy		
ŀ	A. P. Molitor		30
Į	Major Rufus		356
١	Colonel Agoston Haraszthy		33
l	Major J. R. Snyder		1
l	William Shaw	• • •	4
ŀ			1
l	Engler	• • •	1
۱	Geo, L. Wratten		2
l	Maxwell		4
l	Wm. Hayea		1
ı	Green		2
ı	Col. A. J. Butler		10
ļ	Gen. Murray Whallon		1
l	Geo. E. Wattriss		2
I	Fowler		1
Į	C. V. Stuart		4
l	Dr. J. B. Warfield		3
ł	Capt. Chas. Justi		
l	Krohn & Williams		4
ı	J. Whemquartner		2
l	H. Brockman		1
ŀ	C. Weise	• • • •	
l	Thos. Nau.		3
I	Wm, Hood		10
Ì	Jas. Hamilton		6
Į	Louis Adler		2
I	Lohn (+ihean		2
ı	John Gibson Col, Whitman		3
Į	Alfred Lamotte		3
ı	L. Csomortanyi		G
ı	Wm. McPherson Hill		5
ľ	Gen. W. Sewell		1
1	C. Streeter		2
ı	Geo. Gaes		1
ı	Wm. O'Brien		2
۱	O. W. Craig		6
	Nick Carrigar		9
	F. Sears		1
	W. K. Rodgers		1
	Wm. Thompson		2
	Z. Quitzow		12
	Others not mentioned		1-

In other words, from a beginning of 50 acres in the Valley in 1856, in eight years the amount had risen to two thousand. Two thousand and twenty-two acres! As

Total acres..... 2,222

prominent members of the State Agricultu- one of these was thus run 130 feet under commenced the construction of their cellars, document of making Henry a defender of ordered cooperage and built presses. General Vallejo had a very good wine house in the town, in the old military Adobe Barracks: that of the Buena Vista we have already mentioned. Then followed in 1864. the cellars of Dresel & Gundlach, Louis Tichner, Krohn & Williams, Wm. Hood, C. H. S. Williams and others of less note. As Sonoma Valley had so far been the school and oursery in advanced viticulture for all other parts of the State, so was it also the experimental school in practicawine making, and more thorough wine handling. It was here that the missionary work was done again, and not a county in the State that did not seek practical information at this fountain head of vitil culture and vinification. And to the credit of old Sonoma it must be said that none cams that way who did not freely receive the information they sought for. The wine of each county may have had its peculiar characteristic qualities, but in those days, in point of quality as good table wine Sonoma ranked them all.

> In the upper part of Sonoma County, but very little planting went on before the year of 1861 or '62, though there were a few vines in the Santa Rosa region and at Windsor. The development of viticulture in that district to any extent was of a more recent date. Mr. Isaac De Turk's vineyard of twenty acres planted about 1859 or 18,601 and those of some smaller ones in the neighborhood which we believe began bearing to some extent in 1863 or 1864, and were considered quite prominent in that section. But it is not our intention to come further down than 1863. By that time, this noble pursuit was fairly launched on the stormy Sea of Chance, weather-beaten to sink into oblivion, or furling canvas before the gales, to finally sail triumphantly into the Harbor of Prosperity. Many of the pioneers have gone to their rest. Those that are left are struggling still, and, as the day is breaking, we trust their long treasured hopes may soon be fulfilled .- Sonoma County and Russian River Valley Illustrated.

#### DUNNING BY MAIL PROHIBITED.

Postmaster Bryan has been notified by the Postmaster-General of the approval by the President on Jame 18th of an act of Congress which provides, among other things, that "all matter, otherwise mailable by law, upon the envelops or outside cover of which, \* \* \* libelous, scurrilous, or threatening delineations, epithets, terms or language, or reflecting lujury upon the character or conduct of another may be written or printed, are declared to be nonmailable matter, and shall not be conveyed in the mails nor delivered from any Post Office nor by any letter carrier." The act further provides, as a penalty for depositing such objectionable matter in a Post Office, a fine of from \$100 to \$5,000, or imprisonment at hard labor from one to ten years or both. Anything in the nature of an offensive or threatening dun apparent upon an envelope, entside cover, or postal card, or conveying the suggestion that such dan is inclosed, will be excluded as non-mailable under this act.

#### High Price for a Book.

"The highest price ever paid for a book," said an expert, "was \$50,000." The German government gave that sum for a vel-Inm missal which was presented to Henry Rosa for shipment to Bremen via Caps

the faith. Charles 11 cave it to the suces tors of the Duke of Hamilton. A few years age the duke put it into the hands of Southerly, Williamson & Hodge, of London, with other books, for sale. The German govern ment sent a special embassy to buy it, and they carried it back in an iron safe especially constructed for it. The highest offer ever made was for a Hebrew Bible in the Vatican, for which the Jews of Venice agreed to give its weight in gold. It was a vast roll which two men could scarcely carry, and the offer amounted to \$100,000, but it was refused .- New York Evening Sun.

#### A TERRIBLE SCOTEGE.

A writer in a French paper estimates the total loss to France from the ravages of the phylloxera since 1875, when this scourge of the French vineyards first made its appearance, at the enormous sum of ten milliards of francs, or about \$200,000,000. This estimate is based upon French official statistics, giving the aggregate area of vineyards destroyed in the country at about 2 500,000 acres: and on the assumption that, in addition to the acreage of vines thus totally destroyed, the extent of vinevards more or less infested with the phylloxera, amounts to about 500,000 scress making thus together 3,000,000 scres.

#### The Oldesi Tree on Earth.

The Timber Trades' Journal is credited with a statement to this effect: Tha "Bo" tree, in the city of Amarapooras, Burmah is the oldest on earth. It was planted 288 B. C., and is accordingly 2176 years old. Its great age is proved by historic documents, according to Sir James Emmerson Tennet, who says: "To it kings have dedicated their dominions in testimony of belief that it is a branch of the indentical fig tree under which Budda reclined at Urumelya when he underwent his apotheosis." Its leaves are carried away by pilgrims as streamers, but it is to sacred to touch with a knife, and therefore they are gathered when they fall.

THE LATEST ISSUE of the Southern and California special edition of the Music Trade Review is to hand, and comes in a style which certainly reflects great credit on the publishers. Its columns are especially interesting to its readers on this western slope of the continent from the space devoted to local industries. San Francisco comes in for a large share of attention and familiar names of our prominent merchants and manufacturers crop up constantly in the columns.

The Music Trade Review is the leading journal of its kind in the United States, published in New York, solely in the interests of the trade. Its circulation is extensive, which is evident from the list of advertisers, who all belong to the first rank in mercantile circles.

The kindly attention paid to the industries of this coast will undoubtedly win for this energetic and enterprising journal a host of friends here.

BEHRINGER BROS., the well-known winemakers of St. Helena, Napa County, have during the week withdrawn 250 harrels of grape brandy from special bonded ware. house No. 3, at St. Helena, and 550 barrels from special bonded warehouse of Santa

### Impure Olive Oil.

In his annual report to the State Board of Horticulture, B. M. Lelong, the secretary, gives the following interesting information concerning plives and olive oil in California:

There is, perhaps, no branch of the fruit growing industry that is more prominent before the people than olive culture. New plantations have been started nearly all over the State, and many others would have been started it the trees or cuttings could have been obtained.

The culture of the slive has become one of the regular industries of this State, and of the great future which awaits it, there is no doubt, olive oil making cannot be over done. As the production increases so will the demand, and there cannot be enough produced to supply the demand for many years to come. I am constantly receiving letters asking where pure California alive oil can be got in the East. This goes to show that the Eastern consumers of adulterated oil are beginning to rebel against it, and seek for that which is pure and heal by

Professor Thes. Taylor, Microscopist U S. Department of Agriculture, writes to Mr Edward E Goodrich of Onito olive farm. under date of June 4, 1888, which I quote

"At present I am working up tests for all food and medicinal oils and find it very difficalt to procure perfectly pure samples; you will readily perceive that it is impossible for any one to define what the correct test of olive is, nuless he has a pure sample by which to establish his test; for this reaam I send to you for about one onnes of your manufactured olive sil,"

This is not at all surprising, as it is well known that large quantities of seed oils and lard have been annually consumed in the United States as olive oil.

The following are those that are engaged at present in the manufacture of pure alive oil in this State: Hon. Ellwood Cooper, Santa Barbara, Santa Barbara county; Frank A. Kimball, National City, San Diego county; Col. Geo. F. Hosper, Sonoma, Sonoma county; Edward E. Goodrich (Quito olive farm), San Jose, Santa Clara county; J. R. Wolfskill, Winters, Yolo county; Juan Gallegos, Mission San Jose, Alameda County; E. W. Holmes, Riverside, San Bernardino county; Gen. John Bidwell, Chien, Butte county; D. H. H. Clark, Auburn, Placer county.

There are others who have large plantations, and many others who have in recent years embarked in the business, and have largely planted olive trees, but as yet they have made little or no olive oil, the fruit being used for pickling purposes, Many new orchards have been planted in the iuterior valleys; these trees are young and many have begun to bear fruit this year-There is no doubt that in a few years there will be an abundance of olive oil produced in this State, and all these plantations are doing exceedingly well and are planted on noil well adapted to their culture.

#### MISSION VS. PICHOLINE,

Considerable has been said of late conceruing the Picholine olive. Mr. L. Burbank of Santa Rosa has been credited with having made the statement that the Picholine was the larger of the two, and in answer to a letter directed to him on the subject, sent the following:

SANTA ROSA, CAL., Jane 11, 1888. DEAS SIE: In conversation with a re-

but stated distinctly that it is much smaller than the Mission. The article was copied by several papers to some of which I sent a note of correct on.

I will here state the opinion which I have formed about the two olives mentioned. Both have advantages. The Mission will perhaps grow on a dryer and poorer soil than the Picholine olive. This statement, though not fully proven, seems probable from experiments in this and several of the southern counties. The Picholine, howver, grows with great vigor on any sandy

The greatest fault with the Mission in this part of the State is the late and uneven ripening of the fruit. Last fall a large portion of the crop was destroyed by frost. The early and even ripening of the Picholine alone would be sufficient recommendation. but in addition to this it bears a regular annual erop which is very easy to gather, is the branches droop with the weight of the fruit, which separates easily and may stripped an cloths at a slight expcuse.

Having male us sil from either variety using all I had for pickling), I can only say that whenever the Picholine has been tested with the Mission it has in every case which has come under my notice both in California and in Eurone proved to be the best for either oil or pickling.

The Mission is without doubt identical with the one called "wild olive" in parts of France where it is so shy of bearing that it is considered worthless. The Picholine makes roots much more rapidly than the Mission. Out of 800,000 enttings which we put in last winter, over 700,000 are now heavily rooted. Out of 100,000 Mission put in at the same time, not over 5,000 or 6,000 have formed roots.

Of the twelve varieties which I grow it is the slowest and most uncertain in making roots, generally producing one or two roots, on one side of the cutting while the Picholine is producing a mass of vigorous roots in every direction.

Yours respectfully LUTHER BURDANK.

Col. Geo. F. Hooper of Sonoma furnished me with these facts, viz: In 1875 he rooted about 100 trees of the Mission variety; they commenced to bear fruit in 1879. That year he picked a few berries from them. In 1880 he set out rooted trees of the Picholine variety from W. B. West of Stockton, and the first trees to bear was last year, when about a pint of berries was picked from each tree. Trees of the Mission variety planted the same year and time that the Picholines were planted are three times the size of the Picholine; both varieties are on the same kind of land and receive the same

Mr. C. T. Hopkins of Pasadena in his reply as to the best slive, said:

> PASADENA, LOS ANGELES CO., CAL. May 28, 1888.

DEAR SIE:-Replying to your queries of the 23rd inst., I have to say that I have cultivated both the Mission and the Picholine olive, or what is supposed to be the Picholine (being B. B. Redding's importation propagated by Wm, King of Sacramento) linving planted about 900 of the latter to 300 of the former in 1880, the trees being two years old. The orchard is now in full

The Picholine is a regular and abundant bearer, but the fruit is no larger than a eranberry, and very tedious to pick. It is vorter several months ago I mentioned some not good for pickles, the stone being too in certain localities the finit grows so large

of the good qualities of the Picholine clive. Large in proportion. But it is a sweet clive that it must be sliced in order to be prewhen ripe and the stone is full of oil, and I doubt not it would be found profitable for oil. The Mission fruit is much larger, perhaps four times the weight of the Picholine and makes splendid pickles. I have not tried it for oil.

> I have found the tree disposed to bear largely when kept free from smut and scale by two washings per season, and irrigated.

Notwithstanding the talk to the contrary, the olive here is as sensitive to irrigation as the orange. The Mission olive is a shy and uncertain bearer.

C. T. Hopkins.

Mr. F. Closs of Auburn, in his reply, referred me to an article written by him in the Rurol Press, January, 1885, in which he saya:

The comparative value of the Mission and Picholine varieties was discussed at the Santa Rosa Convention, where Mr. Butler said: "I would give the preference decidedly to the Mission. While there are not many more on the Mission, the Picholine are so much smaller it gives a decided advantage to the Mission."

My opinion about that is quite different. I never heard it proved that the Mission will have more berries than the Picholine, but know some facts to the centrary. At the place of Dr. Clark there are two eightyear-old trees, a Mission and a Picholine, standing only fifteen feet apart, and having had always the same care, last season the Mission yielded 49 pounds of berries, while the Picheline gave 63 pounds. This season the Mission has hardly any fruit, while the Picholine was considerable more loaded than last year.

There is another big advantage for the Picholine. Dr. Clark commenced to gather the ripe Picholines in 1887 on November 1st: the Missions he gathered just before Christmas and then they were but threefourths ripe. The late ripening, I think, will interfere with the growth of next year

I expressed this opinion a few days ago to Judge C. A. Tuttle here. "Well," he answered, "this accounts for a fact which so far I could not explain. I have on my place two Mission olives, one of which had a fair crop last year, while the other had only a few. This year it is just reversed. The poor one of last year has a good crop, while the other one has hardly any berries."

The Judge picks his olives when they are dead ripe that is, in February-and is fond of enting them then as they are, because they have lost all bitterness.

Probably climatic conditions may account for the productiveness of this variety in some sections more than in others, and I would be thankful if those who note the conditions would furnish me with necessary

I received a bottle of pure Italian oil from the efficient secretary of the Italian Chamber of Commerce, Mr. Dodero, with the following note:

The olive from which this oil is made produces from 35 to 15 per cent of good oil, while the kinds of clives so far planted in California does not, to my knowledge, produce 10 or 12 per cent. It seems to me, therefore, that the introduction of such stock would be a very precious addition to the wealth of this State .

There is also in Italy an olive for pickling of much larger size than the Spanish. of very small kernel and of much finer flavor. Imagine the size when I say that

served. I hope to have a sample before long to present to you.

There is no doubt in my mind but that the varieties mentioned by Mr. Dodero would prove a valuable acquisition, sad those who can, ought to experiment in that

Mr. L. P. Rixford of Sonoma has so olive of a distinct variety growing at this place, which was imported from France some ten years ago. Mr. Rixford reports this variety as ripening much ahead of the Mission, the fruit is a little smaller than the Mission, and three times larger than the Picholine. The tree is a rapid grower and the trees are equally as large as the Mission trees of the same age. The oil made from this olive (of which there is a sample in this office) is very rich and sweet.

The original label was lost, therefore it is not known what its true name is, but Prof. Gastav Eisen believes it to be the Pendellier. I shall try and obtain further facts conceruing this variety, which will appear in subsequent reports.

The fact that the Picholine has advactages over the Mission is not yet fully proven. The Mission has done well in this State and has produced an oil that in my opinion cannot be excelled, and which has begun to attract the taste of the Eastern consumers. The berries are large, being five times the size of the Picholine, I have a bottle of pure Picholine olive oil alongside of the Mission, and I doubt very much if any one could tell the difference; if at all, the points are in favor of the Mission. One of the greatest advantages the Mission has is that it is a rapid grower, commences to bear young and is a free stone, which reuders it most valoable for pickling purposes, New varieties require considerable time to be tested, and when the last has been clearly demonstrated that better and more productive varieties are fraiting in this State, then it is an easy matter to bud or graft the trees, having a thrifty and healthy stock to start with.

#### SPURIOUS OLIVE OIL.

My attention has been called to several brands of oil in the San Francisco market, labeled " Pure California Olive Oil," Only one brand was reported to me, but on investigation of those offered for sale as pure California oil, I discovered five brands of oil purporting to have been made pure from the native olive for the express use of the parties whose names are on the labels. Three of these brands are labeled as having been jut up at Sierre Madre, Santa Maria and from a San Bernardino olive grove.

At Sierre Madre there are but few olive trees planted and but few as yet bearing any fruit, and what olives are produced there have been pickled,

At Santa Maria there are but few olives excepting the new orchards that in the last five years have been planted.

In San Bernardino county but one person has ever made an olive oil, and he only a small amount. Mr. E. W. Holmes of Riverside. There are many trees planted in that county, but the fruit is used for pickling, so you will see that it would be impossible for those brands to have been produced at Sierra Madra, Santa Maria, or in San Bernardine county.

As perhaps few are aware of the fraud practiced, I would recommend that a committee be appointed to examine these various brands and to file a report before the lelose of this meeting,

In order to ascertain the percentage of human body should rebel against such oils. oil (if any) in these various brands, I made The the following tests with each one. samples were purchas d, and are what is offered for sale as pure California olive oil:

Sample labeled pura California oliva oil from the San Bernardino alive grave .-Mixed 9 parts of the ail and one part nitric acid. Boiled the two together in a white porcelain dish. As soon as the action of the acid and the oil was fairly set up, it was removed and allowed to cool. This sample assumed a deep orange-red color in the dish while heating, and on cooling remained liquid. The sample showed the presence of lard and seed oil, and no trace of olive oil whatever. The next sample treated was one called Santa Maria Pure California Olive Oil. The method of testing was the same as the former. This sample on cooling showed the presence of ten per cent of olive oil, the remainder seed oils and

Coburn's California Pure Olive Oil-This sample showed the presence of more olive oil than the others, registering 30 per cent oliva oil, 35 per cent lard.

Red Cross Brand California Pure Olive Oil-This brand bears a certificate of pureness, from Prof. E. W. Hilgard of the State University, Berkeley. The bottle procured I forwarded to him with the request that it be tested, and to inform me of the result. 9th day of September, 1850.

The next week I received the following from bim:

Berkeley, June 30, 1888. B. M. Lelong, Secretary

State Board of Horticulture.

DEAR SIRT-We have made thorough tests of the ail contained in the bottle procared by you, labeled "Pare California Olive Oil, Red Cross Brand," which bears on one side a label with a certificate of purity signed by me, and which was given upon the result of the examination of a sample sent by that firm some time ago.

The oil in the bottle now sent by you is grossly adulterated with another oil, probably cotton-seed. I had not the time to verify more exactly the nature of the adulterant, and certainly contain less than half its bulk of olive oil. It is needless to say that the use of my name in the manner shown on the bottles is wholly anauthorized by me, and was not mentioned in any way at the time of the examination of the first sample. The use of the certificate on adulterated oil is an act difficult to characterize in courtsons language. I have notified the firm to discontinua at once, and definitely the use of this label, and trust they will do so without any need of stronger measures. Very respectfully yours,

E. W. HILOARD.

Sierre Madre California Pure Olive Oil-This brand showed the presence of ten per cent of olive oil, balance, I believe, to be lard oil.

I have not had time to fully ascertain the various adulterants all these brands contain and also the exact percentage of oliva oil, as when old oliva oil has been used, as in this case, it partly unites with the adolterant.

In a treatise on oliva culture, Hon. Ellwood Cooper says: "This unwholesome adulteration can create the most serious disorders on the digestive organs, and should be carefully avoided by persons who have any regard for their health. Mechanics refues seed oils because of their dryness, as they gum up the machinery instead of greazing it and keeping it clean. It is just Fresh fruit shipped East in 1887, 35,as important that the machinery of the 342,000.

We ought to be familiar with the methods of extracting oils from all oleaginous substances, being so accessary to different industries, but all the table oil should give the preference to that made from a tree that the Almighty saved from the destruction of the deluge and a branch of which the dove carried to Nosh as a sign of forgiveness."

#### CALIFORNIA.

#### Her Products and Natural Advantages.

A special correspondent of The South, published in New York, is now in California, gathering facts for that paper. A late issue contains the following-so unlike what usualy emanntes from Eastern journals as to induce us to reprint it:

California, from Oregon on the north to Mexico or Lower California on the south. has a length from northwest to southeast of 770 miles; and from Nevada and Arizona on the east to the Pacific Ocean on the west, an average width of 330 miles, making a total area of 158,360 square miles; hence it is the second largest State in the

It was acquired by conquest, and later by purchase from Mexico in 1847, and was admitted into the Union as a State on the

In 1880 it had a population of 864,694, and at the present time its population will exceed 1,500,000, almost double what it was in 1880

In 1880 California ranked first among the States in per capita wealth, ninth in aggregate wealth, twenty-fourth in population, twelfth in manufacturing importance, and fifteenth in agricultural products. The assessed value of all property in 1880 was \$584,575,036; in 1887, \$900,395,713. Increase over the year 1886, \$132,000,000. The deposits in commercial and savings banks in 1887 amounted to \$146,611,433 In savings banks alone, \$70,077,893. The net debt of the State is \$354,500. There are published in the State 427 newspapers.

In 1885 there were 2,262 public school buildings, with a vast increase since that time. There were at that time 3.028 teachers, with school expenditure that year of \$3,920.227. Salaries paid to teachers, \$2,573,623. Value of school property, \$7,935,620.

The gold and silver product for 1887 was \$20,000,000. Total gold and silver produst since 1884, \$763,989,650.

The prange crop for the season of 1887-8 was upwards of 1,250,000 boxes, and the hop product 4,500,000 pounds. The annual average of the wool product for ten years is 43,500,000 peunds.

During the last eight years the wheat shipments have amounted 15,000,000 centals, and the flour shipments to 9,600,000 barrels. The annual average of the harley crop in the last three years has been 20,000,000 hushels. Quicksitver product has been 45,000 flasks per year for the last eight pears. Grape brandy in '87-800,000 gallous. Wine product, nansal average for five years, 16,000,000 gallone. Raisin product for 1887, 1,000,000 boxes. Bean product in 1887, 60,000,000 pounds. Vegetables shipped East in 1887, 40,000,000 pounds. Canned goods, 50,000,000 pounds. Nut crap for 1888, 2,250,600 pounds. Dried fruit shipments, 16,00,000 pounds.

These figures are taken from the most reliable source, and show in a measure the vast growth and presperity of this wonderful State. One can hardly write of the resources and advantages of California and truthfully tell of her glarious climate and prolific soil; her vast accumulation of wealth and commercial importance; her geographical peculiarities and boundless products; her natural wonders and sublime scenery, without exaggeration and misrepresenta-

California is a wonderful country, and its possibilities are not yet found out. It combines the elements of the temperate zone and those of the more tropical climes, so that the settler can quickly build up and beautify a most desirable home. One meets the energetic element of the Northern States in a climate capable of producing not only the products of the North, but the luxuries of the Southern climes. good of both and all parts of America here combine to make one grand whole.

The Eastern people are becoming aware of this fact, and hundreds and thousands are flocking here seeking homes. It is estimated that the largest part of those coming to California during the last winter came to locate. Towns are springing up all over the State, ane beautiful homes, surrounded with the comforts and luxuries of life, tell of the happiness within. Of these towns we shall have more to say later on, as we visit them in turn to ascertain more fully the facts and figures of their growth and prosperity.

#### MEDITTERRANEAN FRANCE.

The climate of this portion of France bears a strong resemblance to that of the Coast counties of California, the summer temperature rarely exceeding 85 degrees Fahrenheit, whilst snow and ice are as infrequent in winter. Dronths are common during the summer months, sometimes accompanied by harsh dry winds from the northwest. Irrigation would be general but for the scarcity of water, most of the streams running dry during the summer. Wherever employed, irrigation is more sparingly used than has been the custom in the irrigated districts of California, and often takes the form of hand sprinkling about such plants as require it, according to the wants of each individual plant or viae. The characteristic study and management of detail which mark the French people in all their undertakings, as contrasted with the free and easy, happy go lucky way of the average Californian, is conspicuous in this as in all things pertaining to cultivation. Instead of turning on a flood to equally dreuch all the trees or vines in an orchard or vineyard, the necessities of each plant are carefully studied and water applied accordingly, so that drowned plants are as rarely seen as the water-starved. Au old French proverb says that "a year of drouth is a year of good vine," and the improved quality is generally made to compensate in price for the diminished yield. Fertilizing is brought to a science. In new soils the vines usually run for thirty years or more without requiring help from fertilizers. In some cases the old soil is carefully removed from the foot of the tree, and for a distance along the main roots and replaced with with virgin earth, sometimes mixed with marl, Stable manure, the horns of animals and oil cake are employed as manures, and always buried in farrows between the vines.

apart both ways, but no intervening crop, Formerly where the space between vines was greater, grain was raised in the intervals, but this custom has about disappeared, it being hurtful to both the vine and grain yields. The wine product per acre ranging from 50 to 400 gallons is calculated to make our California growers laugh, when compared with their own immense yield. The wine crop is the principal dependence of the farmers, to whom the appearance of the phylloxera some fourteen years ago threntened universal ruia. After trial of many other expedients to save their vinayards, resort is faually being generally had to the planting of American resistant vines. largely the Riparias. Next to grapes, olives are the most important of the crops, the groves being chiefly confined to the immediate seashere region, and none far removed from the sea. They thrive in any soil, the poorest or the richest, only requiring easterly or southerly exposures or shelters from high winds. The simplest caltivation prevails, and many groves which are not cultivated at ad, produce the highest grades of oil, though in reduced quantities. But little pruning is done beyond suckering and removing withered or entangled branches. Irrigation and manuring are also employed sparingly as in the case of the vines. Great devastation is worked in some years by the Dacus, a small fly which punctures the olive at forming time and deposits an egg, the larva from which feeds upon the pulp of the fruit, and when emerging into the air often cuts the stem, causing the fruit to wither or fall.

#### THE OLIVE TREE.

The olive tree belongs to the jasmina family, with evergreen foliage and blossoms in clusters. It can be propagated in many ways, but the best way is by planting the seeds. This method is rarely followed in this country, however, as it grows readily from the cuttings, like the willow, and will bear in eight or ten years. From this time forward, the yield increases with the growth of the tree, which in favorable soils grow to immense size. There are many olive trees standing in European countries to-day, which are over a thousand years old, and still hear frait. In France, the yield per acre is calculated at about 1,250 gallons. Judging from the crops picked fram the young trees in California, it is fair to assume that owing to a more even climate and superiority of soil, the yield will be much greater here than in France, when our trees have reached maturity

#### The Eastern Grape Crop.

In New York State the grape crop gives promise of being unusually large. Every year the vineyards are receiving better attention from the growers, and what has far years been known as the Hudson River peach district, is fast giving way to the caltivation of grapes. Growers sny there is much mora money in them, and they require as a whole, less attention. During the coming season, handreds of acres will come in bearing for the first time. Iu Orange, Delaware, Dutchess, Greene, Columbia, Albany and Ulster Counties, it is safe to predict that the crop will exceed that of last season fully thirty per cent. The aggregate yield along the valley of the Hadson will be from 8,000 to 10,000 tons heavier than last season. The principal variety is the Concord, and next fall it will not be surprising if they are sald at from Vines are usually planted from 31/2 to 5 feet | two to three cents a pound by the growers.

#### CUPERTINO.

#### A Celebrated Wine Growing district of Santa Clara County.

Copertino, says a correspondent of the San Jose Herald, is a place of no little lmportance, with a futura before it as well assured as any place in the land. It is here are to be found the splendidly appointed chain of wine cellars of John T. Doyle, the eminent jurist and champion of California's wine-growing industry, while all about and close neighboring are some of the finest vineyards and orchards in the State.

The newcomer in San Jose soon becomes cognizant of its relative position in the general topography of the Santa Clara valley. Nestling not many miles from the foot of the imposing heights of the Coast Range, which marks out the eastern line of the valley, the Garden city sends forth in the perfection of symmetry her streets lined with an infinity of shade trees, with gardens on every side. To the west the valley unfolds itself with its neres of fruit trees and viucyards.

To the north is the southern extremity of the bay of San Francisco in its perpetual calm that almost compels the doubt that this is an arm of the ocean. Away in the western prospect, after the eye has accomplished 12 miles of valley that lies in the foreground, the grand old rauge of the Santa Crnz mountains comes up to mark the western comfines of the valley. These mountains are always certain to command particular attention from their general striking appearance, whose eminences, robed in the deepest blue, stand forth in graceful outline against the western sky, a pleasant contrast to the green of the orchards and vineyards that now almost altogether occupy the whole of this promising region.

In the foothills of this range, almost directly west of San Jose, is Stevens creek, known as a favorite driveway and well patronized in the season by devotees of the trout-fishing sport. On the cast side of this creek, at or near where the creek enters the valley from the mountains, is Copertino, and closely neighboring is the celebrated Glenbrook or Blackberry Farm. a pleasure resort well known in San Jose and generally over the State. To Mr. Doyle, Cupertino owes her existence, and everything pertaining to her present importance comes from his hand, for he has spared neither time nor money to promote the interests of the place. He has estabblished the postoffice of Cupertiuo, and built numerous cottages for his workmen, which comprise for the most part the little town; and the wine cellars, constructed at a heavy outlay, are a study for the perfection attained in the details pertaining to the making, handling or shipping of wine

As an example of the high appreciation in which Mr. Doyle's improvements are held it is a well authenticated fact that he is in receipt of a standing offer of \$225,000 for his property on the east side of the Stevens Creek and Mountain View county road, which includes his vineyards, old and new and his wine cellars He has 200 acres in his vineyards and a small prune orchard of ten acres in the bed of the ereck; so that including his wine cellars, he can sell out to-morrow for \$1,000 nn

Another well known vineyard adjoining Cupertino is that of S. R. Williams and

grapes in Cupertino some eighteen years ago, and in those days it was looked on only as an experiment by the neighbors, but Mr. Williams had come directly from the northern counties, then about the only wine growing section of California, where he had already had considerable experience. He was sufficiently confident to go ahead, and he has since been abundantly rewarded. Mr. Williams is the owner and constructor of the immense Union Winery at the junction of the Stevens Creek and Stelling roads-largest wine cellar in the valley.

Another vineyardist who deserves no less credit for the handsome showing made by his improvements is Richard Henry, Jr., late of the well known furniture firm of Wm. T. Henry of San Francisco, and as a city man of business he has managed admirably, and the barren hill-sides have been transformed into a perfect Eden of spreading vines and luxorant fruit trees, Mr. Henry talks of putting down a pipe from his wine cellar to the bay, through which he will ship his wine into schooners on the bay. He claims a fall of 300 feet in the grade, and he claims this is sufficient for the purpose, although his pipe must need be some eight miles long, following the tortuous line of the creek bed.

Another vineyardist who has kept pace with the march of improvements is Mr Lawrence Sellinger of San Francisco. The ranch of Mr. Sellinger was, even in its primitive state, one of the prettiest places in the valley; and his improvements have added greatly to the beauty of the place. The vineyard of Mr. Sellinger is nevertheless one of the finest about, and his prune orehard is a marvel in its growth for its age. Mr. Sellinger has built a splendid wine cellar with concrete foundation.

Another of the large vineyards of Cuper tiuo is that of Mr. Nathan Hall, of sixty acres, which, situated in the midst of the choicest part of the Warm Belt, appears at no disadvantage when compared with surrounding vineyards. Mr. Hall has yet no wine cellar, disposing of his grapes to buyers, as is generally the custom of the lesser vineyards hereabouts.

Among the smaller vineyards may be mentioned those of Frank Anthony, Joseph Spedding, the Cupertino Vineyard of Mr. Harrison and Charles Smith. Foremost among the orchardists of Cupertino is Joseph McClellan, whose orchard and nursery present a powerful argument in favor of the horticultural possibilities of this district. Mr McClellan's trees are just coming into full bearing, and it is not improbable that this orchard may yet be heard from in connection with its remarkable vield.

Cupertino, during most of the year, and especially in the wine-making and grapepicking season, has quite a population. These are mostly Italians, but there is a sprinkling of other nationalities also; Mr. Alexander Phillippi is the foreman and general business manager. At Cupertino too, lives our widely known Roadmaster, Jas. McComb, to whose good management we are indebted for the fine condition of our roads. Altogether, the Cupertino district is universally conceded to be one of the finest portions of the Santa Clara valley, certainly for climate and scenery, and very possibly for frait-growing, where quality and not quantity is sought for. Within the past ten years, old residents have seen land go up from \$35 an acre to \$200 and \$250 an acre, and the end is not by any

menns to California seems not to diminish but at the high rates for traveling, it is only men of means that may come thus far. California is the Ultima Thule. Far away she lies past chain after chain of mountain ranges, valleys and plains, that might raise up a score of New Englands. The land of the setting sun. The western ramports of our Federal Union.

There is some talk of another rise this autumn, and purchasers, or those intending to purchase, should take warning in time. It is reported that as high as \$15 a ton is being already offered for Cupertino gropes.

#### THE OLIVE IN CALIFORNIA.

A note in the Alameda county items of the Alia, recently says that three-yesr-old olive trees, transplanted two years ago into the orchard of Robert McGlashen, Livermore Valley, are this season bearing olives. In Europe the minimum bearing age of the olive is seven years, and in some of the Mediterranean olive regions the tree is barren until ten and fifteen yeers old. In such circumstances the times of waiting for a crop is too large a section out of a man's life, and the planter of a new orchard is working for prosperity indeed, since others must enjoy the fruit of the tree whose bloom he is not to see. In California tha olive partakes of the procreative precocity which inheres in our climate and physical conditions. But as far as vegetable life is concerned, this precocity is associated with longevity. The peach in this State will bloom within the year that it germinates in the stone, but the tree is practically immortal. We know peach orchards here that are thirty years old, and the trees bear annually with vigor and excellence undiminished. The rich earth and elements of the nir stimulated by sunshine seem to furnish a store of inexhaustible material for the support of plant and tree life. Therefore, while the olive is precocious there is no reason to doubt that it will reach the age of those trees in Palestine which have a record of twenty centuries.

The clive growing area of Callfornia is vast. The slopes of the coast range and foothills of the Sierras, as well as the minor valleys, all seem kindly to it. From San Francisco we look over the bay upon the semi-circle of mountains which wall in Oakland. Their sides are bare except for occasional groves of eucalyptus and bay trees. But upon those mountains Joaquin Miller has planted the pioneer olive orchard of nearly two thousand trees. They have not yet been in the ground a year, nor half a year, but they have blossomed and fruit is upon them. It would greatly interest an olive grower to visit Mr. Miller's trees on that bald mountain side and see the sprightly, thriftly growth they have made. They seem to fortell the time when the summits which over hang the bay will be crowded with olive groves, and the picturesque mountains wil recoive new beauties, wedded to a ntility now unknown.

The use of olive oil in this country is extending. Probably two million dollar's worth is consumed by our people. I'nfortanately adulteration of the article keeps pace with the increased consumption and tends to raise the pure article by limiting its sale. When California rubs her eyes open to all her opportunities, every spot on the mountains that will hold an olive tree. where it can get its frequent breath of sea air, will be occupied, and the product will be used not only as a part of the diet, but sons. Mr. Williams was the first to plant means yet. The immigration of men of the fruit will become so plantiful that its and are free from adult ration.

lower grades will be used in the manufacture of soaps to rival those of Castile, Marseilles and Venice. The California orchards are now used solely to produca edible oils, and the pare brands are tho finest known to the market.

This industry owes its impulse here to the efforts of Mr. Edward Cooper, the saccess of whose experiments at Santa Barbara have wonderfully stimulated interest in the whole subject. We believe there are acveral millions of trees now growing in this State, and their product will soon begin to figure appreciably in the statistics of our rural resources. When our farmers and orchardists understand the subject, rural homes all over the State will have their olive groves and oil will be made for domestic use as easily as butter is made now

Surely it is a wonderful State and beautiful in which the waste places are still so favored by nature that the olive tree roots in them and gathers its sweet oil and flourishes.

#### AN EXTENSIVE GRAPE GROWER.

The largest grape-grower in Northern Chautauqua lives st Westfield. Mr. John Faral is well known to the majority of our readers, being a capitalist with very many interests all along this lake shore section. His vineyards are located mostly in the towns of Westfield and Pomfret and aggregate over 190 acrea, seventy-five of which were set out last spring. On each 30 acres he builds a packing house and barn and places so much noder the care of a competent vineyardist. In this way he is able to give proper care and attention to his entire crop, no matter how large, and from what we have seen, there are no better cultivated vineyards in Northern Chautauqua than his. In thus enlarging his grape interests, he has selected the very best land and intends to spare neither pains nor expense to keep the quality of his fruit up to he highest possible standard. In case of over production, which he does not anticipate, at least yet awhile, he will build cold slorage houses, and if necessary, wine cellars. At any rate he intends to push his interests in this line all he can. Mr. Faral is a thorough business man and with his large capital, he will undoubtedly retain the lead he now has among local grape growers. We understand he intends setting out another 75 acres next year.

#### BURGUNDY WINE

In answer to a correspondent, the Farmer says: "Bargundy wine is generally used to denote a class of dry, still, red wines, heavier than claret. It's a general namo for a class of wines, not that of a single kind. They are chiefly the produce of vineyards on the hilly lauds between Dijon and Chalons, France, many of them being 1,000 feet in height. In richness of flavor and bouquet these wines are among the best. Among the most famous brands of Burgundy are Closvougeot, Noits, Chambertin, Romane-Couti, Richebourg, Volnay and Pomard. There are also fine, white wines grown in this district, but are not so well known. About 75,000,000 gallons of wine are annually produced in the Burgundy district.

California to-day grows all the Borgundy grapes, and produces the exact counterpart of Burgundy wines. They are just as good for all practical purposes, cost much leas

#### VINTAGE AND VINIFICATION

The best grapes of finest growths, when treated according to Petiot's process, yield the greatest advantages; for that which remains best to the very end of the operation is the bouquet-the particular flavor which distinguishes each situation and each product, and which gives in its value. Many persons have tasted these wines, have found them good, and have not been able to distinguish them from the wines pressed from the grapes directly, and yet they cost but one-third of the price of the latter. Such are the data which Petiot published in a letter addressed to the Central Society of Agriculture

This method was introduced into Germany by Thilmany, General Secretary of the Agricultural Society of Rhenish Prussia. who made experiments with the process, in order to be able to determine its value by personal experience. In the year 1858 he related his experience before a meeting at Bonu. A report of this lecture is given in the Bonner Zeiting of March 5, 1858. His lecture bore the title, "On the French art of making, from a given quantity of grapes, four times the quantity of wine which those grapes would yield by the ordinary method." He exhibited a great number of samples of wine made by this method. The circumstance that Thenard had then also used this new method, and had employed in his experiment thirty-six thousand kilogrammes, of a value of elevan thousand thalers, of sugar-a sum of money which such a man would not easily risk. unless he felt sure of the success of his process-came greatly in aid of the lecturer.

Dr. L. Gall of Treves, who had already taken up this matter some years before Petiot, now published in the year 1862 a little pamphlet entitled 'Petiot's Method of increasing the Quantity of Wine,' (Treves). He gave in that pamphlet a series of tables by which every producer might at a glance, ascertain the quantity of water and sugar which he would have to add to the murk of the grapes in lieu of thenatural must withdrawn. He then adduced in support of the process the teachings of the French chemist Maumene of Rheims, and of Ladrey of Douny in Burgundy. Manmene's "Sur le Travail des Vins' gives an historical account of experiments which were made in the year 1777 by the celebrated chemist Macquer. who from quite unripe and hard grapes, usade an agreeable tasting, fiery wine, like that from ripe grapes. He says that the experiments of Macquer have changed a thousand times, and have been employed by thousands of people, without ever having been studied with scientific precision by any one until Petiot placed the matter clearly before the public. What must surprise every one is that each one of these chemists and experimenters admits that the sugar-infusion wines retain the perfect bouquet of the natural ones. The amount of acidity or of tartrate of potash in them is less than in the natural wines. The circumstance that they contain so little tartrate makes them much more like old wines, for it is well known that wines by age deposite their tartar and become milder to the taste. The infusion wines resemble natural wines in all essential qualities; they contain all the essential ingredients, and almost in the same proportions, as the natural product. The non-essential ingredients, or those which are frequently hurtful to the natural wines, are diminished in the infused wines to such an extent that not be prudent to propose, and impossible rule: The quantity per thousand of acid to-day.

their phannes is a favorable sinconnetance The method promises to increase the quantity of cheap beverage, and affords to the less onulent classes the means of making for themselves a cheap, wholesome beverage, even from grapes from which wines could not be obtained fit for commerce or transport

SPECIAL APPARATUS AND BULES REQUIRED FOR THE PRODUCTION OF SUGAR-SOLUTION 10:13:25:0

vessels. 3. Vats admitting of the measurement of large quantities of fluid, 4. A hatchet for chopping the lumps of sugar. 5. A large copper kettle for producing sugar-solutions, 6. Froth spoons and ladles. 7. A thermometer centi-graduated according to Celsius. 8. A specific gravimeter. 9. A fermentation barrel with a pierced double bottom for drawing the wine from the murk.

The snear must always be pure white cane-sugar, for grape-sugar so called, or sugar made by the influence of sulphuric acid noon starch, is always objectionable Cane-sugar is always chemically pure. while grape-sugar is frequently moist and impure, though white. For every sum of sugar wine, which is equal to 160 bottles, from 30 to 50 lbs, of sugar are required.

The white grapes to be used should be left on the vine as long as possible, for it is known that their quality becomes the better the longer they are allowed to hang; the quantity of sugar contained in them increases, while the amount of acid diminishes. The black grapes, on the contrary, should not be allowed to get over-ripe, for the wines obtained from over-ripe black grapes mature very quickly, and indeed, are passed in the third year; while the red wines obtained from grapes at the proper stage of ripeness have their greatest value from the second to the fourth year, or as long as they possess the qualities of youth.

The grapes may be pressed, and the must treated with the sugar-solution; or the grapes may be crushed and fermented together with their juice, and the first wine drawn off after they have fully fermented, and the sugar-solution thrown upon the murk. All this depends upon the nature of the grapes, and the amount and quality of the wine which the producer wants to obtain. In any case he adds to the murk always a quantity of sugar-solution, which is the same as the amount of the must withdrawn, and contains the same amount of sugar. This process allows of any person obtaining a large quantity of wine without sacrificing a single drop of his natural wine; for he, of course, obtains the natural wine in the first instance, and can deal with it as he pleases,

ADJUSTMENT OF ACIDITY AND SUGAR WHICH OUGHT TO BE MADE IN MUST BEFORE IT IS ALLOWED TO FERMENT.

A wine which contains less than 6 per cent. of alcohol tastes flat, and a wine with more than 10 per thousand of acid is so sour that one cannot drink it. Now, if we obtain in a bad year, a must which contains only 12 to 14 per cent, of sugar, and from 15 to 18 per thousand of acid, we are obliged to throw away the wine which would be obtained from such a must, for nobody could drink it; it has, indeed, been demanded by many persons that such produce should be thrown away. But without entering into the discussions which have been held on this subject, we ourselves have come to the conclusion that it would

to enforce, such a measure. Various processes have been derival to improve such a wine. The first process was invented by Chaptal: he merely added the snear which was wanted, and thereby gave it more strength, but he did not by any means diminish the acid; and that diminution of acid was in France and other parts general ally effected by the addition of chalk or plaster of Paris containing chalk. It was Dr. Gall whom we have already unoted in 1. Balance with weights, 2. Measuring a former priagraph, who first p oposed to dilute acid must with a sofficient quantity of water, in order to reduce the proportion of its neid to that of the best natural must and then to add sugar in order to bring up its sweetness to that of the best natural must. Gull determined the amount of acid in the must by chemical analysis, and then depressed its quantity to an average of 5 per thousand. The addition of sugar was made sufficiently great to be equal to 20 per cent, of the diluted must. To ex press the proceeding of Gall shortly, by made in all cases a normal must of 20 per cent, of sugar and 5 per thousand of acid Of course the quantity of wins thus pro duced was the greater, the greater had been the acidity in the must employed; but wha struck the observer as most remarkable wathis circumstance, that the wine was alway better than the wine from the same son must made by ordinary means. Indeed. anybody who will consult old cookery books will find therein numbers of prescriptions for making gooseberry, current, and all sorts of fruit wines, and he will find in all of them that water is added to the fruitjuices, and then their sweetness brought up to a certain point before they are allowed to ferment. The process of Gall was therefore only an extension to wine must of a practice which for a very great length of time had been commonly applied to ordinary fruit-wine. We have ourselves made several descriptions of fruit-wine according to this process, in the following manner.

DESCRIPTION OF THE PROCEEDINGS FOR MAK-ING FRUIT OR GRAPE WINES, ACCORDING TO THE METHOD OF GALL.

The fruit is well crushed and the juice pressed out. A small quantity of that juice is then analysed as to its acidity. A standard solution containing 5 parts of tartaric acid in one litre of solution is made: a saturated solution of lime in water made, on the other hand; and it is ascertained by the usual method of volumetric analysis how many cubic centimetres of the lime-water are necesary to neutralize a given quantity-say ten cubic centimetres of the turtarie said solution. By this means it is found that a certain number of cubic centimetres of the lime solution correspond to a certain quantity of tarturic acid; or, if applied to any liquid containing an unknown amount of neid, they will express the quantity of acid-contained in that liquid as tartaric acid. Now, when we took a natural fruit-juice, and found say 10 per thousand of acid, we were obliged to add to every five measures of the juice five measures of water, whereupon the acidity would be depressed to half its original degree, or 5 per thousand. When we found 12 per thousand, and were desirons to reduce the quantity of acid to 7 per thousand-which we always did in cases where we supposed the acid present to consist more of citric and malic than of tartaric acid-we added to every sever measures of must five measures of water. Our practice, therefore, yielded the following

which it is desired to obtain is deducted from the quantity per thousand actually found by analysis; the remainder gives the number of measures of water which it is necessary to add to the measures of must expressed by the d sired quantity of acid per thousand. By this dilution the quantity of sugar is naturally very much depressedbut us this depression is known, it can be easily remedied. The specific gravity of the must, according to the tables, gives the quantity of sugar which is actually contuined in the mixture. Suppose the sugar originally contained in a fluid so diluted had been 15 per cent., and the quantity of fluid had been raised from 5 to 10 measures then the percentage of sugar after the dilu. tion 15 x 5 10 =  $7\frac{1}{2}$  per cent. In the second case, where, as above mentioned, we have diluted from 7 to 12 measures, the equation would be-15 x 71/4 = 83, per cent

Now if it is desired to bring up the must to the normal strength, 20 per cent. sugar, then, in the first case, there would have to be added 20 less 71%, or 121% per ent, of sugar; and in the second case, 20 tess 834, or 111/2 per cent, of sugar.

One per cent, of 100 litres must be equal o l kilogramme; 100 litres of dilute must require therefore 121/2 and 111 kilogrammes of sagar. The wines obtained from these mixtures contain 5 per thousand of acid. and between 10 and 11 per cent, of alcohol (To be continued.)

#### THE VALUE OF GRAPES,

In all the long lists of fruits, there is none so valuable as an article of food as the grape. Year after year, the consumption of grapes increases, and we have no doubt that it will continue to increase quite as rapidly as the supply. The grape is peculiarly useful as food. It should be made a prominent article on the bill of fare not eaten simply as a desert, or between meals as a tid-bit or luxury. For persons of a bilious diathesis, they are invaluable. Let such persons begin with the first grapes that ripen and eat moderately of them at each meal. Increase the quantity gradually until they manage to make grapes the principal article of food; for two meals out of three, eat nothing but bread and grapes. The improvement in their health will be rapid and of a permanent character, In Europe they have institutions for invalids known as "grape cures" where the patients are fed an increasing proportion of grapes until they est nothing else.

There is nothing to hinder almost uny family from eating freely of grapes in these days, as they are sold at prices which make them as cheap as almost any other food, Four pounds of grapes can be bought for the money it requires to buy one pound of occefsteak and it needs no scientist to show that the grapes are worth the most as an article of food. As people find these things out, they will eat mora grapes, and in this fact we find eucouragement for an almost unlimited extension of our vineyards. Port Jervis consumed last season probably not less than twenty tons of grapes, while ten years ago one ton would have supplied the demand. Doubtless a similar growth is taking place all over the country, especially where grapes can be had at moderate prices.

The many arrangements for keeping grapes, now in vogue, have successfully prolonged the season until late in January, and this has largely added to their consumption. We hope to see, ere many years elapse, grapes used as freely as bread is

#### A SACRAMENTO WINERY.

One of the leading industries in California, says the Sacramento Weekly Union, is the growing of grapes and the manufacture of wine. In nearly every portion of the State, these two go together, and where you find an extensive vineyard, there you also find immense cellars. In this county, are some mammoth vineyards, that of the Natoma Company alone containing upwards of 2,500 acres of bearing vines. Until last season the grapes of this immease vineyard were sold to outside parties, hundreds of earloads of table grapes going to the Eastern market, while the remainder of the crop was shipped to local wineries and distilleries, where it was made into wine and braudy. In March, 1880, Mr. S. Nevis built the Eagle Winery, on the south half of the block bound d by O and P, Eight. eenth and Nineteenth streets. The main structure, which is a two-story brick with a basement, faces on Eighteenth street, and in size is 66x120 feet. It is a fine structure, covered with a corrugated iron roof and fitted up quite expensively. South of the main building is his sherry room, with brick floors, cemented ceiling and walls, and fitted up with steam pipes throughout Those who have visited the premises say it is one of the most complete and convenient wineries on the coast, and to make it so the proprietor has not taken into consideration time nor expense. Mr. Nevis makes over twenty different kinds of wines, and so far has found a good market both at the East and in San Francisco. He owns no vine yard, but bays all the wine grapes raised in this vicinity, and in some parts of Yolo and El Dorado counties, with the exception of what is bought by the winery near Guthrie's station. He says, since starting up this widery, he has made the following amounts annually; In 1880, 35,000 gallons; 1881, 60,000; 1882, 60,000; 1883, 100,000; 1881, 75,000; 1885, 100,000; 1886, 250,000; 1887, 150,000. Last year the grape crop was not so heavy as the year before, but this season the crop will be fully as large, if not larger, than that of 1886. He expects to make this year in his two wineries, over 500,000 gallons of sherry, white wines, perts and clarets.

Last season he purchased the block bounded by Twenty-first and Twenty-second R and S streets, and has erected one of the most extensive wineries on the Coast. The structure is brick, two-story and basement, and in size 170x170. A side track from the railroad comes directly into the cellar, so that grapes coming in and wines and brandies going out can be handled with the least expense. He has here larger sherry rooms than in the Eighteenth street place, two large stills, and the entire place is filled with the latest and most complete machinery known to the trade.

Mr. Nevis says that twelve years ago, there was but little wine trade. There was searcely any home consumption, and the Eastern market amounted to but little. During the past eight years, the demand for wine was increased over 200 per cent., and there is a market for all that can be produced, though the prices at this time are so low that there is very little profit to the manufacturer. He attributes the dull market and low prices in a large degree to the vine growers. For some years they received from the wine-makers- professionals who understood their business-from \$20 to \$25 per ton for their grapes. This was a handsome profit, a good vineyard yielding a profit ranging all the way from

\$150 to \$200 per acre. However, the vineyardist was not satisfied. He wanted to make it all. He built his cellar, bought his vats, crushed his grapes and made his wine. The next season Le had his vats all full, and another crop to be crushed. The wine must be sold to make room for the new crushing. It was thrown upon the market, shipped East, was inferior in quality, sold for what it would bring, and, of course, damaged the reputation of the State and brought down the price of the good article. Mr. Nevis says he is not one of those who believe in over-production, but at the present time he thinks the acreage of vines is all that can be handled, at this time, with profit. He, however, says that the wine trade of this State must continue to increase augually, and at no distant day, the wines of France, Italy and Spain will not be found in the American market. "I don't say this because we can sell them but because we make a better article. There is no country in the world m-day that can make or does make as fine sherry and port as California, and as to darets and white wines they cannot compare with us."

#### NAMES OF PRECIOUS STONES.

Many of our stone names have no more mysterious origin than the name of the place where principally found. The chalecoony is from Chalcedon, near Constantinople. The turquois is from Turkey, its

28,213,500

chief mart from Persia, Our agate comes from Achates, the old name for the river Drillo in Sicily, where it is said to have been first found. Jet owes its name to the Latin word for it, gagates, from Gages, the name of a town and river in Lycia. For our sard we may choose between Sardia, which Pliny adopts, and sered, the Persian for yellowish red. One derivation connects the topaz with the name of an Indian town where it was found accidentally by some quarrymen who mistook it for alabaster Another traces it to an island in the Red Sea, called Topazus-from a word signifying to seek, because the said island was so beset with fogs that navigators had great difficulty in finding it. Most of our precions stones being of foreign importation, they do not enter into our native mythology, as flowers or animals do, nor for the same reason do they play a conspicuous part in English poetry. Pearls are sometimes spoken of as the tears of fallen angels, or, as Sir Walter Scott says:

"See these pearls that long have slept, These were tears which naiads wept. with which we may compare Robert Her-

"Some ask'd me where the rubies grew? But with my finger pointed to

rick's account of rubies;

The lips of Julia.

"Some ask'd how pearls aid grow, and where? Then spoke I to my girl, To part her lips and show them there The Quarelets of Pearl.

-The Gentleman's Magazine.

#### CALIFORNIA RAISIN INTERSES.

The Tribune editorially says: "Oregon's overwhelming vote for protection reminds Californians that they also have woolgrowing, and many interests besides, which the D mocratic tariff would strike down. The Mills bill would ent off the duty on wool, of which California raises about 40 .-000,000 pounds, and of the fruits of which California ships enormous quantities to the Atlantic markets. The duty of two cents a pound on foreign raisins now gives some advantage to American growers, although 10,000,000 pounds even now are brought from Europe at that duty; but if it were repealed, the freight on raisins from Europe is only eight cents a box, while from California to New York the freight is thirtyeight cents per box, and the difference is sufficient to shut the products of the Pacific coast out of the Eastern markets entirely, To the Golden State the success of Cleveland's policy means a loss of \$2,000,000 or more a year in the value of wool alone. besides some millions more in the value of fruits, wine, outs and other products. The Democrats themselves no longer imagine that California will vote against its intersts and prosperity.'

THE IMPORTS of beet sugar into New York from January 1st to May 15th, which last year amounted to nearly 32,000 lous, are this year only just over 600 tons.

### EAST BOUND THROUGH FREIGHT.

Forwarded by the Southern Pacific Co., June. 1888.

Boiler Compound		30,950						
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Books and Statlonery	7,540		1,430					
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Mohair	3,860							
								10,560
	76.530						****	
	139,110				108 550			******
Ores								
			435,100		2,269,120			130,730
				4				
								*******
	2,710							*******
Salmon, Canne L	80,000			********				
Pickled	175,300						140	
whitedoa	931 760					6,570		
							** ** *	
Silk Goods	37,940						*******	
Skins and Furs	12,050							
							********	
Tobaccu leaf			******		***			
Veretables					LOTEGE			22,300
Whalebone					1,010,000			
Wine	1,474,510		136,020	148,350	334,210	199 870	2,380	290
Wool, Grease			19,340		505,460	11,000		135,220
P Scoured					25,510		******	
Woolen Goods,	25,690				37 010	1.1.60		********
Miscellaneous	186,370	17,510	51,310	7,550	29,500		2.790	5,130
Total.								
10(8)3,,	25,213,500	301,530	2,135,820	218,760	1 0,056,260	327,180	7,710	357,170
	leans flooks and Statlonery forax foraval flooks and Statlonery foraval flooks	leans	Beans   107,636	Reans.   107.636   7,940   1,430   1,430   1608 and Stationery   7,546   7,940   1,430   1608 and Stationery   116,780   128,960   1,416,330   1,416		leans	leans   107.436   7.510   1.430   1.430   1.430   1.430   1.430   1.430   1.430   1.430   1.430   1.430   1.430   1.430   1.430   1.4350	Seans



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AGENTS,	
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FRIDAY.....JULY 20, 1888

### FOR SALE.

#### A Wine Press

Office of "S. F. MERCHANT."

MANY OROWERS are now preparing to dry grapes, in anticipation of low prices which prevailed during last season. The lowest average price for the dried grape here is 21/2 cents per pound. At three and onehelf tons of ordinary wines to make a ton of the dried fruit worth \$50, this makes \$15% for the ton of grapes. Allowing \$31/4 cost of drying and carrying to market, the grower realizes \$12, which was the average price paid in some sections last year.

This product may be packed in sacks, or what is better and less expensive in sugar barrels. The English market will prove a valuable one for this commodity, in that there is no duty on the same. Immense quantities of dried grapes are marketed yearly in France at prices ranging from 31/2 to 51/2 cents per pound, but the dnty here amounts to 1/2 cent per pound. Large consignments of this product when sold so cheap as our growers are now able to offer. are marketable in the mining and cattle camps of the United States.

The Pacific Fruit Company of this city report that they shipped East last year several carloads of Zinfandel, Malvoisie and Mission grapes received from Fresno. and that they netted the producer 31/2 centa per pound. They report a good demand for such dried fruit and have sent East to see how many could be used.

The following is a letter received by Clarence J. Wetmore, Secretary of the Viticultural Commission, from the Secretary of Foreign Fruit Exchange, New York:

"Of the dried grapes you wrote about, I believe there would be a margin of profit in them if you could accure a low freight. If they are any good at all they would bring 5 cents per pound, at least. There is always a chance to come in with low priced goods, although Valencias have been selling around 6 cents per pound for off-stalks throughout the season. If I could get a sample of the dried grape I could give you a better idea of their value. The market is low down in stock new and there might be a chance to work off a quantity of them."

Bonfort's reports from foreign wine growing districts are to the following effect: of rain, and none of hail, During the whole of last and the beginning of this month the temperature has been exceptionaly favorable to the vines at Beanne. and they are progressing in the most desirable way. After a good budding and the appearance of many grapes, the blooming began and has become general all over our district at this time. If the weather continues to he as favorable as it now is all the vineyards of the Côle will be in full bloom within eight or ten days. The pyrale is devasting in certain parts of our wine district, but the damage done by it is more or less considerable in the different vineyards. according as the owners have been careful or not in treating them. It has been noticed that the vineyards of all those who employed the Balbiani system of how to destroy eggs and cherrysalides of various insects, estapillars, etc., are suffering much less from the pyrale than those whose owners have been afraid of the expense and trouble that this treatment occasions. The system of Balhiani and the boiling of the supporters would very likely be sufficient to deliver the whole district from all these insects, caterpillars and worms, if only every one of the proprietors would do it A small part of our district has been injured by hail already-Rully, for instance-and the vineyards in the valley of Dhenne (vins ordinaire) have suffered still more. The Côte de Beaune and de Nuits, however, are safe so far.

The yield in the vicinity of Maissac will greatly exceed that of former years; I saw a bunch of grapes yesterday on which l counted 77 diminutive berries. "Negret" dark grapes are, however, a little backward still in the Taru-et-Garonue. I am informed from Burgundy that, while otherwise sound, the "erinose" has commenced to afflet the vines, a disease being treated like mildew. Common wines are pretty much exhausted in that region, and desirable ones are eagerly being bought up. In the Nantais, the vines are making satisfactory progress: 1887 wines are nevertheless firmly held, Muscadets at 150 francs the 230 litres, and Gros-Plants at 55 to 70.

The vines at Cognac, are now in full bloom and present a beautiful appearance. Howbeit, we have had, for some days, a succession of north-easterly winds, which are very bad, indeed the worst possible winds for vines in bloom. Moreover, the sky is overcast, and there are slight rains, whereas in the open clearings the sun is too intense, a conjunction of atmospheric conditions which often brings in its train the dropping of the fruit, or the running out of the sap, as the case may be. It is to be hoped that this temperature may not lastso that vintners may not be entirely disappointed in their well-founded hopes,

As neither the mildew nor the phylloxers cause apprehension any more at the district of Rivesaltes and Roussillon, an abundant harvest is looked for; meanwhile, the wine trade has arrived at a complete standstill though small wines are held some 7 to 8 francs higher than in March and April, the range being 21 to 25 francs the 120 litres.

Fine weather continues to favor the growing grapes in Algeria. The grasshoppers still threaten the Médeah, which district produces the finest wines of Algeria; we need not fear them in our own province All depends on the wind, which may still carry them in a solid column over to Tunis.

In the neighboring departments of France the vines are doing splendidly; frequent much damaged.

thunderstorms brought refreshing showers

At Bergerac a most a most abundant vintage is in prospect; dealings have been

In Germany sunshine and rain having been equally distributed to the Rhenish Hesse region during the past fortnight, the vince have made normal headway. Diminutive grapes on the tiny banches promise an unusual abundance.

In Rhemish Prussia a high temperature. counled with clear weather, and occassionally a thunderstorm, with a copious, beneficial rainfall, have done wonders in vineyards along the banks of the Rhine and Moselle

Throughout Alsace the tropical heat we are having has a marvellous effect on grapes, which develop fast, blossoming now lasted some ten days. Abundance is in prespect. There has not been a vestige of disease.

In the Haardt Mountain district the blossoming has this year been a fortnight shead of last year's; the outlook is most propitious. Mean while the wine trade is stagnant

The year 1881 was the one which gave Spain the biggest wine crop, yet it is estimated that the present vintage will exceed it. There are some vines on which there nearly as many clusters as there are leaves. Io fact, since the beginning of May the weather has been all that could be wished for. The blooming has been everywhere accomplished.

The tropical heat that has prevailed in Hungery during the blossoming period which commenced on the 10th inst., has propitiated the latter so much that diminutive grapes are no more backward, and promise a good average yield for the entire district

On taking a general view of vintage prospects in Portugal, the same have to be pronounced favorable, blossoming having been gone through successfully, and the show of diminutive grapes promising a more than average yield.

With the sole exception of Piedmont and Lombardy, where the mildew hee made its appearance on the lowlands, the outlook for the coming vintage throughout the Peninsula and island is decidedly encouraging, so much so that it is thought the total yield will not fall short of that of 1881.

EXCEPTION IS TAKEN to an article which appeared some time ago in our local papers in which the yield of raisins was divided between the great San Joaquin Valley and Southern California to the exclusion of the more northern portion of the State. As a matter of fact, the honor of making the first raisins in California is due to R. B. Blowers of Yolo county and the industry was for years confined to this section, and the valley of the Sacramento. Even to-day estimating the yield of the State at 800,000 boxs, Yolo alone yields over 125,000 hoxes, nearly one-sixth the entire product of the

THE HOT weather has proved very detrimental to crops, and shrivelling of the grape has taken place at many of the districts. The drier sections all over the State have suffered most.

No fungoid disesses have been reported this year so far, not even the mildew which for every year at this season has caused so

A GRAPE VINE pest is reported in the East, and leaves sent for scientific inspection shows that some insect had been at work on them. The leaves had numerrestricted to 1887 red wines at 500 frames ous galls upon them, larger than those made by Phylloxera. They were sbont two touths of an inch in diameter and of a watery green color. Their location is on the veins. The foot stalks of the leaves and adjacent portions also bear numerous galls. which are large, confluent and of a pate red color. They were submitted to a prominent entomologist who pronounces them the result of the ovinosition and subsequent development within, of a small fly or midge known as Lasioptera vitis O. S. The insect though differing in liabits, is closely allied to our well-known " wheat midge." By cutting into the galls one or more active, orange colored larvae may be seen, which bear quite a resemblance to he wheat midge larvae, as found in the heads of wheat and to those of the clover seed midge which have of late destroyed so unch of the clover seed in this State and adjoining territory. The larvae will soon merge from the galls drop to the ground and hary therein to a moderate depth or pupation. About the last of Jane or arly in July the perfect winged insect will uake its appearance. There is no known vay of preventing the attacks of this insect. The best method of controlling it is to pluck off all the infested leaves and tips early in June before the larvae have left the galls and burn them.

> THE Call in editorialy referring to the Sweet Wine bill says;

An effort was made in the last Congress to relinquish the revenue derived from a tax on spirits used in the fortification of sweet wines when such wines are exported. kingdom, except in the open mountain The purpose of the bill was to reduce the cost of wines so as to make it profitable to export them. With a full Treasury and a surplus which gives the President and his party in Congress so much anxiety it was held that the Government might refund the tax on the spirits that enter into sweet wines in the interest of domestic industry, especially when the taxed wines are exported. But the Democratic majority in the House has decided not to relinquish this revenue. It will continue to collect a tax on an article of home product which is to some extent exported. The majority propose to reduce the tax on foreign-made articles of many descriptions, but when a proposition is made to give up a tax on a home-made article the Mills band of political economists object. A proper regard for home industries would induce Congress to free native wices from all tax whatever. California wines are the most healthful stimulating beverage that is used, and the manufacture of such wines is a great and growing industry. A certain amount of spirits is used in their preparation, but in the form of wine such spirits are less injurious than in their natural state. It is difficult to conceive of an argoment against remitting the tax on spirits used in the fortification of sweet wines for export, and yet the House votes against an amendment to that effect.

WOODIN & LITTLE advertise in this issue of the MERCHANT, a double-acting wine force pump, especially constructed for this particular business, and without which no winery is complete. In prices, the firm are prepared to meet customers on a basis compatible with the merit of the machine, each of which is guaranteed.

serious disadvantage of the grape grower, They tend to create a demand for the bet ter types of fruit. At present some of the leading wine makers are contracting for Cilbernets at \$30 per ton. The estimates of this your's crop have heretofore been greatly exaggerated. R cent returns to the Board of Viticulture Commission from District Commissioners West, DeTurk and King are as follows:

Alameia	nolle, 100 000 8,
Fresno	
Los Angeles	3,500,000
Napa	3,500,000
So ramento and Nr th	
Solano	500,00a "
Santa Cruz	500,000
Santa Clara	
Sonoma	3 ,000 ,000
Other districts	1,000,000
Total	online (ritio 100) 42

Of this product about 5,000,000 gallous will be brandy, which will leave the wine

product 16,000,000 gallens.

These figures are reliable and will serve to remove any anxiety which may prevail among growers, over the many exaggerated statements which for some time past have becu floating through the country and which have all cmanated from interested speculators.

THE AECENT exposures of adulterations in California olive oil, are timely. It is a hardship that such an industry frought with such import to this State, should be compelled in its infancy to struggle against such iniquitous blows at a reputation which , to meet foreign competition, should be maintained at the highest standard possible. It is difficult enough to find foreign goods free from deleterious matter, and if the product of our own orchards can not be depended npon, the further planting of the tree may be suspended for any hopes of profit in the future to the grower. It is pleasant to note that the adolteration has been confined altogether to the middle men. and that the purity of shipments direct from the manufacturers has been maintained. The only way to ensure protection from raids, which must result in destruction to the industry, is for the growers to form a market for their product in the leading cities of the Union, putting the packages up hemselves under private brand. By this means, the public will be supplied with an article which can be depended upon to stem the tide of foreign competition.

A Special to Bonfort reports that at an extensive wine-testing held for the purpose of selecting the wines for the use of the Casino of Deidesheim, the following houses submitted samples: Friedrich Seyler, Eckel Bros., Oscar Schmidt, Herm. Eckel, all of Deidenheim, and Reichert & Son, of Forst. Of eleven brands of white wines selected, Mr. Friedrich Seyler was awarded the palm for ten, ranging in prices from 65 plennigs to 6,60 marks per bottle, and the firm of Eckel Bros, one brand at 80 pfennigs per bottle. The arm of Friedrich Seyler was also victorious in the competition for furnishing the red wines. In this tournament, besides the above mentioned firms, Louis Feiss participated.

A retition is being signed by all wine merchants of Hamburg to get the federal Government to reduce the duty on foreign wines in casks stored here 50 per cent, provided they do not exceed in value 90 marks per hogshead, on llamburg enteriog the Customs' Union. At Bremen a similar movement is on foot. The fact is that a sudden millimatires. Shippers in foreign

Lowes raices do not always act to the similar allowance was made to hold rs of foreign wines at Labeck when that city entered the Customs' Union in 1868, and it seems nothing but just that the privilege should be extended to the larger Hauseatte

> THE EXPERIENCE of vineyardists in many parts of California, tends to prove that irrigation is not essentially accessary to successful cultivation. In some parts of Placer county, where vines have been watered for years, the growers were in d spair when water was turned out of the ditches. They continued, however, to prune and cultivate the same as usual, and were agreeably surprised to find that after standing still for some time, the vines began to grow with more satisfactory results than when irrigation was followed up,

> THE "lany" which sailed during the week for England, carried 4,196 gallons of California wines and brandies.

> WINE GEOWERS are now rushing wine into the market and clearing up cellars in preparation for the new crop.

#### EARLY CALIFORNIA.

Among many other friendly allusions to California and our people in the latest edition of the Southern and Californian special edition of the Masic Trade Review, is the following excerpt from a work written many years ago of life in the days of '49, The knowledge that everything pertaining to the history of the State during the golden epoch is interesting, induces us to reproduce it.

Rents were correspondingly enormous Three thousand dollars a month, in advance, was charged for a single store, of limited dimentions and rudely constructed of rough boards. A certain two-story frame building, known as the "Parker House and situated on Kearny street, facing the plaza, paid ita owners one hundred and twenty thousand dollars a year for rents. Of this sum, somewhere about sixty thou sand dollars was paid by gamblers, who occapied nearly the whole of the second door. The "El Dorado," a gambling saloon which adjoined the Parker Hous on the right, at the corner of Washington street, and which was only a canvas tent of moderated size, brought at the rate of forty thousand dollars per annum. another corner of the plaza, a small building, which might have made a stable for half a dozen horses, was possessed by Wright & Co., brokers, under the name of the Miners' Bank, at a rent of seventy-five thousand dollars. The United States Hotel paid thirty, six thousand dollars; a mercantile establishment for a one-story buildiog of twenty feet from, paid forty thousand dollars, and seven thousand dollars per month was paid for the Castom House. The interest of borrowed money was rated by the same scale. From eight to fifte n per cent. per month, with the addition of real security, was regularly given in advance for the use of money And people paid these enormous wages, rents and interests, and still made fortunea to themselves Real estate, that but a few years before was of little more worth than an old song, now brought amazing prices. From plain twelve dollars for fifty-vara lots, prices gradually rose to hun Ireds, thousands and tens of thousands of dollars, so that large holders of such properties became on a

their ventures to California, and af, ere long the expenses were so heavy and the wholesale prices of goods, by excessive supply and competition daindled so low that sometimes they would not pay land ug or storage charges, why, still the commission agents of San Trancisco and the hist of interior merchants, shopkeepers and other retail dealers were doing a thriving business and accomulating large soms. The hold r of every office in the State and municipality was paid generously. There was no niggardliness in such things. A religious body, whose clergymen are seldom in the habit of receiving extravagant salari s, took the support of their minister on themselves, and voted him the princely allowing of ten thousa d do las per acom! Clorks and underlings were treated in the same hand some manner. The great sums, forming the total of such wages, salaries and profits were always rapidly passing from hand to hand, and came and went, and hardly disappeared in gambling saloons and billiard rooms, at bars and in brothels, in land, jobbing, building and mercantile space ations, in every kind of personal profusion, extravagance and debauchery.

The mainspring of all this bustle and money-making trade was the gold mining. Consider, therefore, the mightly cubanced prices for every article at the diggings! Gold dust paid for all foreign supplies, and filled the pocketa of every active and shrewed man besides. Millions' worth of pure gold, in lumps and dust, reach d San Francisco every month. The greater portion was forwarded to the Atlantic States and other distant quarters in payment of supplies; but in the transit much was appropriated and retained, as currency, among the ever-plotting, restless and Future generations will see California a rich and prosperous country, independly altogether of her mineral wealth; but in those days it was the placers alone that made and are still making it what it appears. All honor, then, to the stardy and independent digger, whose labors are peopling the country, cultivating the fields, building cities, masing roads, covering the ocean and the bay and the rivers of the land with steamers and great ships, and conferring riches and happiness not only on the grow ing population of California itself, that shall bereafter be numbered by millions instead of the hundreds of thousands, but also on millions of industrious workin a in every quarter of the world!

#### THE FIRST CONCERT

The following extract from Mr. Steph n C. Massett's book, "Drifting Abroad," not without historic interest, and execulingly appropriate to this ca" for and in of the Music Trade liviere:

" In the month of Jane, 1849, some of my New York friends advised me to give an entertainment, there being at this time no place of amusement of any sort open in San Francisco. It was my first essay to appear in a monologue performance, and as it was the first public entertainment of any sort or kind on the Pacific Coast, 1 think it may be entitled to a brief space in these my "adventures."

The "Annals of San Francisco" gives the following in relation thereto

"On Monday evening, June 22, 181), a concert of vocal music was perform dust the old school room on the southwast cerner of the plaza, and this may properly be regarded as first among the r gular amuse

countries realized large fortunes at first by ments of San Francisco. It was given entirely unassisted, by Mr. Stephen C. Mass it, at the suggestion of many of his New York hi mls. The little room was crowded to suffocation, the proceeds yielding the vocalist over five hundred dollars. The tellowing is the programme, a enriosity well worthy of preservation, printed at the fice of the Ata California, then the only per in the city. 'Front seats,' it will be observed, were reserved for ladies, of whom there were but four present. The pinno used we believe there was but one in the country) upon the occasion was loaned by Mr. E. Harrison, the collector of the port, and sixteen dollars were paid for removing it from the custom house to the schoolroom, situated on opposite sides of Portsmouth Square";

#### ON MONDAY EVENING NEXT.

#### A CONCERT

will be given at the Court-House, Portsmonth Square

BY MR. STRHEEN C. MASSETT,

composer of "When the Moon on the Lake is Beaming," and other popular ballads.

#### PROGRAMME

#### PART I.

- 1. Song-" When the Moon on the Lake." Words and music by S. C. Massett,
- 2. RECITATION-Mr. Massett: The Frenchman, the Exquisite, and the Yankee, io Richard III.
- 3. Song-Mr. Massett: "My Boyhood's Home," from the opera of Amilie
- I. An Imitation of Malam Anna Bishop in her song of "The Banks of Guadalquiver.
- 5. Song-"When a Child I Roamed." Words and music by S. C. Massett.
- 6. An imitation of an elderly lady and German girl who applied for the situation of soprano and alto singers in one of the oburches of Massachusetts: S. C. Massett.

#### PART II.

- 1. Sond-Mr Massett: "When time bath bereft thee," from Gustavos III.
- 2. Mr. Mass tt. "Liss of the Steamship President," by Epes Sargent.
- 3. Mr. Massett, "I'm Sitting on the Stile, Mary," by W. R. D mpster.
- t. An Imitation of the N. Y. Razor Strop Man, John Smith.
- 5. Ballan "She Wore a Wreath of Rises" Mr. Moss tt , J. P. Knight.
- Ballab -"List while I Sing," Com pos d by Stephen C. Massett.
- YANKEE IMITATION "Deacon Jones and Seth Slepe," S. C. Mansett.
- To conclude with the celebrated

#### " YANKEE TOWN MEETING!

in which Mr. Mass tt will give imitations of seven diff rent persons, who have assembled for the purpose of "suppressing the press." Tickets \$3 cach; to be had at Dr. Bobinson's the nist and Druggist, on the plaza; at the "Parker House," of Mr. Massett, at the office of Col. J. B Stevenson, and at the door on the night of the performance

N.B. "Front seats reserved for ladies"

THE MERCHANT is the only recognized wine journal on the Pacific Coast

#### THE TARIFF ON BAISINS.

(Dispatch to California Associated Press )

The tariff debate in the House was one of the liveliest of the session, and the political effect of which will be far-reaching. The clause reducing the tax on raisius from 2 to 11/2 cents per pound was taken up. Vandever of California offered an amendment restoring the duty to two cents. He called the attention of the Democrats to the seriousuess of the step they were about to take. The raisin industry in California was one of the most important in the State. It had been said that this reduction did not amount to much, when in fact it would amount to more than \$150,000 a year. He did not believe that the Democrats, if they thoroughly understood the situation, would iusist upon the reduction. The treatment meted out to California so far has been anything but justice. It would seem a pity that that State was separated by the Territories from the rest of the Union. Did au ocean instead roll between them-did the Spanish flag, instead of the stars and stripes, float above California's soil, they might reasonably hope for better things. This proposed reduction from 2 cents to 11/2 per pound, he said, was a direct blow at a prominent industry of California, and a severe one. The producers of raisins in his district were small land-owners. It was like striking a blow at the homestead and comforts of home. It practically amounts to just as much as a robbery of the farmers. The majority of this House could not assame a more unfortunate position than the present one, favoring, as it does, foreign products at the expense of home products

McKenua followed and made a strong plea for Vaudever's amendment. He said he hoped the amendment would be adopted. The industry needed it and must have it, or else it would perish. He appealed to the Democrats of the House to support it. He believed they could be loyal to their party and yet support the amendment. He thought there must be some limitation for both protectionists and tariff reformers. This industry, being a new and difficult one demanded consideration. He showed that experiment and toil had to be gone through with, and markets found for the product, all of which took time and capital. He said that imported raisius varied in price from 10 to 30 cents per pound, and the domestic from 5 to 40 cents. He expected that this year's production of California raisius would be 150,000 bexes. The duty, he thought, ought to be kept at 2 cents per pound, and declared it to be for the interest of the Democrats, if they wished to cousider olitical reasons, to support the amendment. Representative Biggs declared that he

was in favor of protecting raisins and everything of the kind produced on the Pacific Coast, and therefore supports the Mills bill. which he thought was better protection, since it does away with the peruicious damage rebate. There was no ten per cent. damage under this bill, and the protection thus off red would soon enable the United States to supply the world with raisins.

Mr. Morrow, in answer to Biggs, said that the proposed reduction was to give the product at cheaper prices, but that could not be done without ruining the industry. In a new industry like raisius, the growing of a vineyard needs from four to five years' care, with no returns to the grower during that time, and he falling in debt. He declared such to be the condition of the raisin duction would destroy the small margin of up can be afterwards gathered up and saved. full preventive against the rot, but certainly fruit.

profit now enjoyed. When the Democrats came to rice, they would retain the 100 per cent. protection. But raisins they would! reduce 25 per cent. Was that just? Both were necessary for good pudding. He said most of the raisin-growers of California are poor and struggling for existence against Spain and Southern Europe.

McMillan of Tennessee spoke of the benefit that would result by the abolishment of the damage rebate.

Morrow here interrupted and said that the damage on raisins was too small to be considered a factor in the case.

Felton said that a great deal had been uttered regarding the depressed condition of American agriculture, and he declared it to be due to competition at home, and said we could not afford to compete with Enrope. The duty on raisins and other products should therefore be maintained,

The amendment was defeated by a vote of 67 to 77. The position of active hostility to the maintenance of the tariff assumed by Biggs, and his vote against it, is taken as signigeaut of the way he will vote on the wool clause. Thompson was absent, although it was a well-known fact that the raisin clause would be taken up to-day.

The present duty on raisins is 2 cents per pound. Mills' tariff bill proposes a duty of 1/2 cents, a reduction of one-half cent. Shippers declare that the crop of Spauish raisius will be a large oue, with low prices. Under this circumstance, even the present duty is considered an inadequate protection for the raisin-growers of the Pacific Coast.

In this connection attention is called to the significant assertions of R. B. Blowers, a prominent raisin-grower of the coast, who says: "Tinkering the tariff is ruining the business of raisin-making in California. When the tariff on raisins was reduced before, it crippled the industry. I took up a large portion of my raisin vineyard then. and converted it into an alfalfa patch, and another part of it I grafted with table grapes. From the alfalfa tract, I will get from 10 to 13 tons per acre. I am getting ready to take up the rest of my raisin vineyard in anticipation of another reduction of the tariff in the interest of the Spanish raisiu-grower, for another reduction will kill the business here. We can barely make a profit now during an average year, but if there should be a good crop in Spain and a poor one here, we would not make a cent after paying freight to Eastern markets, which is several times as much as the foreign producer has to pay. The foreign raisiu-maker would, therefore, drive us out of the market."

#### FIGHTING GRASSHOPPERS.

Mr. Geo. West of the Viticultural Commissiou, has been experimenting on the vineyards of Kohler, West & Minturn, at Minturn, Fresno county, with a remedy suggested through the Excentive Officer against grasshoppers, consisting of using arsenic with bran, middlings and syrup. Mr. West finds the best results by using ingredients in the following proportions: Forty pounds of bran, 15 pounds of mid dlings, 2 gallons cheap syrup, 20 pounds arsenic, mixed soft with water; a tablespoon thrown by the side of each vine or tree; cost per acre for trees, 25 cents; for vines, 50 cents. He reports complete success; that the hoppers eat greedily and die in their tracks. If the mixture is put on shingles industry in California to-day, and the re- it is the better plan, for what is not eaten

#### FLORDIA AS A SIGAR PRODUCER.

The enormous consumption of sugar in the United States and the immense amount paid to foreign countries for it, makes its production here a matter of vital interest. How best accomplish this, whether by en courning the beet and sorghum sugar interests by bounties, whether to maintain protection on imported sugar to stimulate Louisiana's sugar business, or whether to pay a bounty ou it, are questions that have for years commanded general attention. Kausas is trying to solve the question by paying a bounty of two cents a pound on all sugar produced in the State, and, as told in a recent letter from there published in the Journal of Commerce, this has caused marked activity in the establishment of sorghum sugar mills. In that letter it was stated that the factories contracted for the sorghum cane at \$1.50 per tou delivered, and as the average yield was ten tons per acre the farmer received \$15 an acre, which was mentioned as a profitable business. Theses figures are in every striking con trast with the results shown in the cultivation of sugar caue in South Florida. Por several years it was claimed that South Florida in the neighborhood of Kissimmee was the finest sugar producing country in world, surpassing even the West Indies, and two or three years ago Mr. Hamilton Disston and other Philadelphia capitalists determined to test the matter. The cultivation of the cane in Florida was nothing new, as that had been done for generations, but only on a limited scale. These gentlemen went into it very extensively and built a sugar mill at a reported cost of several hundred thousand dollars. So successful were they that \$60,000 worth of new machinery has been ordered for increasing the capacity of the mill, and a railroad is now under construction from Kissimmee through the sugar district, simply to open it up and afford adequate transportation facilities. The St. Cloud Sugar Co., under which name these gentlemen incorporated their company, in addition to their own immense cane crops, agree to contract with other growers to pay \$4.80 per ton for all the cane raised, and as the average yield is 30 tons an acre this is an offer of \$192 per acre, As contrasted with \$15 an acre in Kaosas the difference is remarkable.

There is no doubt but what the country of which Kissimmee is the center is destiued to become a wonderful sugar producer. The advantages for the cultivation of cane, its great saccharine strength and the absence of killing frosts, added to the healthfulness of the climate, all combine to make this certain. It is a matter of interest to the entire country that this should prove rne. Should Florida ever produce, as it is possible it may, enough sugar to supply the requirements of this country, it would not simply make that State enormously wealthy, surpassing the fondest dreams of its enthusiastic people, but it would retain at home the many millions of dollars which we now annually send elsewhere for sugar, -Baltimore Journal of Commerce.

#### BAGGING GRAPES.

A grape grower writing in N. Y. Tribune, says: In many places this is well worth doing, merely to protect the bunches from birds, insects and from eyes which, if tempted, set fingers to plundering. The fruit becomes handsomer, and can be left on until rich ripe. And it keeps better. Bagging does not, however, seem to be a such, or by the juice flowing over the sound

palliates it when the bugs are put on as soon as the fruit is formed. The bags should be of thin, tough manilla paper, such as grocers use, and of one and two pound size-chiefly the former if they merely inclose the thyrse of fruit. This is preferable the method of folding the mouth of the bag over the cane, one-half in one direction and the other (divided off by a short slit) in the other direction, which requires two piunings, several extra motions, and is often impracticable where canes are crowding; and it makes the gathering of the fruit more difficult.

If the mouth is folded only round the stem of the thyrse, one cut removes all together, and the bags, remaining on the bunches, keep them well apart, so that they keep perfectly if taken off without bruising. We either make one large trian gular fold, leaving the stem show at its upper corner and pinning in the middle of the fold, or, if the stem is short, it is left in the middle of the bag's mouth and two folds are made, which meet and lap just like a shawl pinned round the neck and shoulders. The pin in this case usually includes the stem, making the wrap very close and secure. No rain can enter by either of these modes of folding, and we cut uo hole in the bottom of the bag, but do not object to one; for we often use squares of paper in lieu of bags. Children soon become experts at putting on these protections.

#### PRESERVING GRAPES.

White Smyrna figs and the White Muscat grape are som times preserved together, the second crop of figs coming in senson to can with the grapes. We give the rule for their preserves now, though September is the month in which they can both be had for canuing: Pick the figs when their skius begin to crack, peel, weigh and allow onehalf of a pound of best granulated sugar to one pound of the fruit. Mix the fruit and sugar carefully, (not breaking the figs) and let stand over night. In the morning cook slowly on the back of your stove, stirring carefully at intervals. In the morning also prepare your Muscat grapes by picking them from their stems, washing, weighing and allowing one-fourth of a pound of sugar to one pound of fruit, (and as many grapes by weight as figs). Cook in another kettle, using only a very little water-just enough to keep them from burning. They will cook, after starting to boil, in about ten minutes. The figs will need cooking nearly so hour. When both fruits are done, mix carefully together, let come to a boil and

#### Wasps and Bees.

Bees never injure sound fruit, according Wasps will puncto Popular Gardening. ture grapes, etc., but with bees it is a physical impossibility. Their maudibles are not so constructed, nor are they strong enough to be used in puncturing fruit. Numerous experiments have been tried; among the rest, one of putting the hives in an apartment, and taking the bees' food away, and making them fast for a few days at a time, and all the time exposing grapes, etc.; but the bees would not do any injury, even under those conditions. If fruit bursts, or is injured by the birds or wasps or something else, the bee will soon suck all the juice; but that is an advantage rather than an injury to the grower, as the sound fruit is apt to rot by coming in contact with

#### NATIVE WINE SHIPMENTS BY SEA. OUR

TO NEW YORK-PER SHIP IROQUOIS, July 13, 1888.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	HALLONS	VALUE
k.D.,		31 p in heons Wine	1,5860	21,951
C8&C	C Schilling & Co	20 puncheons Wino	2,959	
A V Co	**	100 barrels Wine	19,165	
Fire a special control of a		34 barrels Wine.	1,682	9,162
C In dtamoud		200 harrels Wine.	9,706	
J.C		50 barrels Wine	2,459 [	
FB&S	1	27 barrels Wine	1.331 (	
F Z		25 barrels Wine	1,226]	5.025
A G & Co	A Greenbahm & Co.,	150 barrels Wine,		2,000
K&F	Kohler & Frohling	175 barrels Wine,	4,803 (	
		100 harrels Winc	5 000 1	6,592
G		200 barrels Winc		3,535
O in dignoid		300 barrels Wine		
F W II & Co		50 barrels Wine		
DFF& Co		20 barrels Wine		
DFF&Co		50 barrels Wine	2,186	8,350
1 31 K & Co	Delan and M Massel & Co.	300 harrels Wing		5,959
B & C		171 packages Wine.	100	10
		13g barrel Brandy,	25	50
	B Dreyfus & Co	811 barrels Wine	10,280	16,112
JAS		125 package Brandy	2,931	5,862
EB&J	Lachman & Jacobi	S96 harrels Wine		
JAS		22 barrels Wine		17,901
J.18	C Shilling & Co.	82 packages Brands	2,551	5,10∃
W				
Total amount of Brandy			-5,510	11,020

#### PER P. M. S. S. CO'S STEAMER SAN BLAS, JULY 14th, 1888

#### TO NEW YORK.

K in diamond	J Gundlach & Co	112 puncheous Wine	[-2.116]	8846
A in diamond	11	5 barrels Wine	233	128
K & F	Kohler & Frohling	20 harrels Wine	1980 1	4 =
44	11	12 puncheons Wine	1,876	1.433
44	11	10 barrels Brandy	178	
A G & Co	A Greenbaum & Co			951
a G & CO	a tireemiaqiii & Co . ,	100 barrels Wine	1,990	2,743
64	**	30 cases Wine		140
	4,6	10 barrels Wine	503	345
RG	C Carpy & Co	50 harrels Wine	2,461	875
G M	44	25 barrels Wine	1,231	435
J C	44	25 barrels Wine	1,285	1198
L F	11	15 barrels Wine	741	115
M & C	6.6	10 barrels Wine	198	240
LP	0.5	10 barrels Wine	197	230
N P	**	10 barrels Wine	191	300
MG & Co				
95 to the CO + + + + + + + + + + + + + + + + + +	44	24 harrels Wine	3,183	830
2 11 de Che		1 barrel Brandy	-151	125
8 8 & Co		11 barrels Wine	632	300
GM	Stetson, Remar & Co.	17 barrels Wine	850	255
	6.1	[30 half puncheons Wine	2,500	1,000
P B	4.4	20 harrely Wines,	1,000	281911
CY ('0	B Drevfus & Co	25 barrels Win s	1,250	630
A V Co	C Schilling & Co	18 barrels Wine	853	427
G S	44	1 cisk Wine	15.3	31
A Py	Lanorman I Proc	100 barrels Wine	1.058	1.521
If F in diamon I	of the house to the	25 barre's Winn		
	a manin n & co	20 Darres William	1,234	135
LG in diamond	**	20 barra's Wine	1,241	397
66		I I cases Wine		
	••	I barrel Wine	37 %	10.1
DMLH	16	d cases Wine		36
T B C	84	2 cases Wine		1.9
A N	1+	1 case Wine		22
	Kohler & Van Bergen.	125 harrels Wine	6,151	2,500
	Wm Hoelscher & Co	Pharrels Wine	128	3010
*4	to to the total terror	I I barrels Brandy	4H	
F A	Lachman & Jacobi .		1,279	120
	Gaennan & Jacon .	25 harrels Wine		362
S in diamond		25 barrels Wine	1,277	364
A in diamond		20 harrels Wine	1,021	315
B B	**	20 barrels Wine	1,015	311
A V	14	15 barrels Wine,	761	255
R P	44	15 barrels Wine	769	217
E V B in diamond	14	35 barrels Water	1,776	605
L K	+ 6	15 barrels Wine	.,,,,,,	.,,,,,
43	6.6	I keg Wine	561	169
81	11	1 barr I Brandy	45	128
CDK	11	O Laurel Deart	99	
ерк	11	2 barrels Brandy		210
30 4 13 13		39 puncheons Wine	3,212	1,02
M & B B		I barrel Brandy	52	109
		3 barrels Wine	152	150
G & M	Williams, Dimond & Co	20 barrels Wine	5959 E	183
Total amount of Wine, 5:	I cases and		53.353	\$22,300
Total amount of Brandy			GGO	1,433
-				1 4 4 34 3

#### TO CENTRAL AMERICA.

L S A, Guatemala Urrela &	Urioste.	2 kegs Whiskey	10	8 66
BT, La Libertul	#4	2 kegst Wine	40	32
M V, Champerico	14	2 k gs Wine	-10	82
		La continue		
R & D, Oces E Kemen		I harrel Wine	28	28
B&G LS Hass		I barrel Whiskey	12	110
B B & Co	11	I barrel Whiskey	131	
Table 4. STORY CALL		1 barrel Whiskoy	42 (	158
B H & C	aruch & the	2 barrels Whiskey	85	235
42	14	2 harrels Whie	97	491
R&H Bloom Br	03	10 eases Whiskey		5813
San Jose de Qunt	11	10 cases Wine		411
M in diamond, La Libertad H P Tayle	or Fr	1 barrel Claret	54	411
E H, Adajutla	14	2 barrels Claret	101	756
M M, Champerleo Eug de S:	dda ti Os	Itt easies Wine.	2113	1 161
at at, than period rang the s.	MARKE CO.,	Share and Military and		
1.0 Outstan	1. (1.	2 cases Whiskey		16
J G, Corinto A Greenb	ann & Co	1 cask Witte	45.3	64
		2 cases Wine		- 5
B M, Corinto		30 cases Wine		120
A G C, La Union LF Lastr	edt	30 cases Wine		120
		22 kegs Wine	120	140
M B, Puntas Arenas		10 half tarrels Wine		
46	Fq	13 kegs Wine,	107	382
M C S & Co, Puntas Arenas	1.0	10 kegs Wmc	100	100
40		2 cases Wine		55
J W & Co, Puntas Arenas	4.0	55 cases Wine		215
16	ts.	10 cases Whiskey		115
EC, La Libertad John T W	winds.	1 keg Whiskey	10	50
D K, Amapala,	11	2 kegs Wine	211	16
A & S, Amapala	41	b book With		79
	14	8 kegs Wine	1H3	
Y P P, Amapala		4 kegsi Wine	40	28
LB, Amapala		G cases Wine		30
· ·		2 cases Whiskey		10
		2 cases Brandy		301
B V, San Juan del Sur	**	2 kegs Winc	21	20
D de N.M. San Juan del Sur . S bachma	n & Co	76 cases Wine		285
M S B, Guatemala J M Thoc	0 1 3 0	100 cases Wine		1,000
9.5	4.6	22 kegs Wine	220	250
J L T, Guatemala	11	S packages Whiskey	5465	300
5.0		I barrel Wine	4.0	GO

CENTRAL AMERICA (Continued).		
S.S., Corinto   C.Ginollach & C.)   11 ha f ba re ls Wine   S. & C., San de Quit   Sebwartz Bross   10 eases Wine   F. E., Chauppertoo   E. E. G. Ste de & Co.   2 cases Wine   L. F. E., Chauppertoo   Parroll & C.)   deases Wine   E. E., Pintas Aronas   2 barrels which key   F. Y., Chauppertoo   C.   C.   C.   C.   C.   F. Chauppertoo   C.   C.   C.   C.   C.   C.   F. Chauppertoo   C.   C.   C.   C.   C.   C.   C.   F. Chauppertoo   C.   C.   C.   C.   C.   C.   C.   F. Chauppertoo   C.   C.   C.   C.   C.   C.   C.	300 52	194 35 14 36 236 32
Total amount of Wine, 375 ewos and . Total amount of Wishesky 14 rasses and . Total amount of brands 2 cases and	1,791	3,610 30 1,390
TO MEXICO.		
M.C. San Bias Cabrera, Roma & Co. Scaska Carel 1, VR Mazatlan Hierse Wane Hierse Wane Cabrera	300	*112
C. R. de V. Mayatlan Tanty Carrajai & Co. 5 Larrels Wine	136,	100 111 60
M.G. San Blas	11 55 240	29 93 150
Total amount of Wine, 36 cases and	1139	8700
TO PANAMA		

MISCE	HLANE	ous shin	MENTS.
-------	-------	----------	--------

ptabrera, Rema & Co. 420 cases Winskey . 1 1 8182

DESTINATION.	VENNET	R10.	GALLONS	VALUE.
Santa Resalia	Salmoon	Hark	3,935	\$1,225 13
Japan Victoria	Post Adelaide	Steamer	2,110 176	730 170
Tahiti	J D Spreckels	Parkentine.	1,730	611
England	Gaelie Irby	Ship	3,826	65 1,650
Ireland	.,	Ship	1741	4.5 10 7.5
				\$1,540
Total shipments by Pau Total Miscellaneous shi	ama steamers		3 gallons §	26,813 82,800

Grand totals. ..... 203,380 \$109,652 CHALLENGE



Double Acting Wine Force Pump

The annexed cut represents our Horizontal Challenge Wine Pump, of great compactness and power, for use in reine ecitars for pumping from one tank into another. The cylinders of our Iron Pumps are brass into the content of the period of the fever, and at an extra charge we will furnish them also with all motallic valves.

The water ways are large and yet and they also pumping.

also with all motalite valves.

The water-ways are large and very direct, and the whole pump is so simple that there is no hability to get out of order, and so substantial as to be very embring. This Pump is extensively used by Wine Men. Being compact it is easily removed from place to place. The arrangement of the lever makes it less laborious to work than the ordinary lever. We recommend this Pump to wine dealers as the most serviceable Pump for their requirements, and gramatice them equal in every respect to any Pump for this purpose in the market.

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#### THE VINE AND ITS FRUIT.

(Continued from page 106.)

The Romans were great wine-bibbers. At all their banquets and at the celebration of their public games wine flowed freely. Every rich Roman must have his private wine cellar, with wines, "rich, rare and old." Hence the vine was cultivated generally even to the neglect of more important productions. The soil of Campania was peculiarly suited to the growth of the vine. In that warm climate the fruit could not long be preserved, and hence was rapidly made into wine and scaled up in jars and placed in the cellars to remain possibly for an age of ages. In the excavations at Pompeii some of these old winecellars have been unearthed and the amphore or clay wine bottles have been brought to light where they have been standing in the sand for seventeen centuries. The historian, Pliny, tells of fifty different varieties of wine in use among the Romans. So much the worse for the Romans-for where are they to-day? Roman luxury and licentiousness led to effeminacy and made once mighty Rome an easy prey for her enemies. But they did bring grape culture to a great state of perfection. lustead of posts and wires they attached the vines to trees (arbusta). The elm and poplar were used most commonly, and the vines were spoken of as "married to the trees." They grew, when planted in deep, rich soils, to the hight of thirty or forty feet, and, even in pour sail, eight to twelve feet. Their vintage season was about the same time of ours-the latter part of September and through the month of October. The grapes were gathered in baskets and carried on the heads of slaves to the wine-presses. There they were trodden by the feet of men, (calabantur,) and then afterwards pressed after the manner of the Egyptians. This juice would pass the fermenting stage in about nine days. Thus all the nations of history have been cultivators of the grape and users of its fruit Such will be the case to the end of time. In this lake region of ours we are in our infaucy compared with the lands of which we have written in these papers. And yet we are afraid of "overdoing," and sometimes we fear lest the business of grape raising, as it is often expressed, shall "play out." There may be temporary overdoing; the markets may sometimes be overstocked and prices be low, and all that. But let us remember that the grape "came to stay," and that from the days of Noah to the present hour the business has never permanently failed in any land. There may be an occasional blights, frosts, hails and other hinderances and discouragements: but while time endares, people will est grapes if they can get them. The grape vine by its thriftiness and persistent life along our lake marging and everywhere else throughout the whole earth, as it flaunts its green banners in the breezes, fills the spring air with the delicious aroma of its flowers, and then in autumn bends nuder the weight of the purple clusters, says, with Tennyson's brook:

"Men may come and men may go, But I go on forever."

#### NECTAR FOR THE GODS.

Shirley Dure, in last January's number of the American Garden, gave a splendid indorsement to the pure, unfermented jnice of the grape, well calculated to interest thoughtful men and command public attenbeverage, he says:

"It is the most beautiful liquid in the world, deep, rich in color as fluid gems; all fermented wines being pale beside it, for they are diluted, while this is the full blood of the grape of that 'sweet and divine odor' which Homer gives to the 'sweet black vine', the priest of Apollo gave Ulysses, and which was the fresh grape jaice boiled thick and nuchangeable by time. But it is not a mere indulgence, for all the reviving which wine gives, this grape juice gives, with no reaction. Its effect is simply wonderful in restoring strength. I must write strongly of it, for it is what I have been wanting all my life and never found before, something that would put strength into weak arms, and stendiness in tired heart beats, clearness in the working brain and sense of well being in the whole frame, and leave it there. For years, daily, after working up to eleven o'clock in the morning, there has come that reaction, the fatigue that writers and nervous people know, that no food or medicine, ever seemed to relieve, and which mude the rest of the day's work a dragging effort. A gless of grape juice changes all this, and on three or four glasses a day, I work with an ease and sastained strength which makes a novelty to myself.

"It is the food and drink both, like milk, only a thousand times better; and though no vegetarian or dietist, I had rather live on cracknels and grape juice wholly, than go without it. It banishes bilious and dyspeptic symptoms, humors and consumptive ails like magic. Here I stop, not for want of more to say, for this subject is barely begnn but it is best to leave each person to test it for himself. It is easily done. Anyone can sque ze a pound of grapes in a towel, and strain the jnice for drinking at once, after the imperial court (ashion ages ago. A delightful little hand-press, with porcelain sockets, sold for two dollars, does the work much better. Once people get a taste of this blissful fluid, there will be no danger of raising too many grapes in this country or any other, especially as it is perfectly easy to put up this pure grape juice so that it will keep unfermented, unchanged, fresh as when it left the cluster for twenty years. Don't say it can't be done. It is done, has been done for centuries.

"You can taste it in New York shops fresh from the press before your eyes, and hottled for years, and you can't choose between the two. The grape-grower, whose intelligence provided this treat for the publie, has done a very good thing for his own profit, but a better one for the country, both for growers and consumers, and the next five years will prove the strength of these words."

### The "Kniffer System" Condemned.

D. S. Marvin, of Watertown, does not favor the "Kniffen System" of training the vine: for while it has the advantage of doing away with the old wood of the arms, it has two great defects. Its lower arms in a few years are useless, because the sap will all go to the arms upon the upper vines and deprive the lower ones of natriment and thus fail. Again the main trank will, in spite of all that man can do, clog and fill up so that the sap can no longer circulate freely, the same as in every other except the renewal system." These objections seem to be conclusive against the sys tem, unless it shall be materially modified; and until some other method of training is made known, the grape growers of our region had better follow in the present tion. Of this thoughtful and health-giving well-beaten path, and train in the old way. -The Vineyardist.

#### CONTRA COSTA RAISINS.

A sabscriber, whose knowledge of raisinmaking in Spain is instructive, writes to the Contra Costa Sun as follows:

The viticulturists of la Vega make their raisins from the Muscatel grape, a grape similar to those raised around your beautiful town of Concord. They are grown only on the plains, The grains are large and fleshy, the epicary thick which protects them from alteration. The banches are gathered with great care, and the defective grains are taken from the bunches with scizzors. They are exposed upon the passeras-large rectangulars of at least 60x 100 feet-facing south-east, with a wall huilt a foot high and filled in with black sand or pulverized slate, so as to augment the absorption of the heat of the sun There are footpa hs about 9 foot square for the walkers who turn the bunches that remain in the exposed sun, which is done with tongs, entting off at the same time any grains that are not sound. Becoming dry, the raisins are transported to the warehouse where the workmen put them in boxes. The grapes that are the most perfect are spread on leaves of paper that separate the layers. The raisins sell according to their age. Malaga raisins are named pasas de sol, indicating that the sun was their only confectioner.

Alicante having a weaker autumn sun than Mulaga, the grapes are dried in ovens, after a preamble in a lie of oil and ashes an immersion that facilitates their dession tion. These raisins are named in opposition to those of Malaga, pasas de legia. They can only be considered as a counterfeit, for they have neither the finest of aroma nor the stability of the raisius made in the Glen-Terry, Alhambra and Langenkamp vineyards of your excellent county of Contra Costa.

The people of the United States are their best customers. California is yearly making inroads in their immense trade for the reason that your raisin-growers are producing as fine and as low priced a raisin as the most soperior made in Malaga. In fact, generally speaking, you are supplying your people with a superior article from your own vineyards, than are imported from Spain. You have the Asiatic contiment to the west, the Pacific Ocean washing your shores, and a large market in China for v ur wines, where there is no tax or duty for its entrance. The Chinese are working like beavers to break the opium bondage they are held in. Will wine accomplish it. Let our merchants meet the English in oriental markets, Possessing the best soil in the world where the vitis vinifera flourishes to perfection, be awake to your interests.

#### TWIN FIR VINEYARD.

This vineyard which embraces some ninety acres or more in Sonoma is the property of Joshua D. Tucker, and was taken in hand on the 22d of Octuber, 1886. At that time the land was covered with timber and brash which yielded many cords to the acre. At present some sixty acres have been cleared and it is not too much to say that from the time the work was begun to present day the change reminds us of a transformation scene. The majority of this sixty acres is now planted with many vines of the choicest varieties of French types. The well-known Semillion Muscatel de Bordelais, Sauvignon blane, Merlot, Carbernet-Sauvignon, Carbernet-Franc, Verdeot, Tennat, together with other choice

specimens are to be found here. Tacker has experimented as to the advisibility of growing olives and thirteen mouths ago commeuced plating small cuttings round the main and cross avenues, . So successful a growth have these shown, some of which reach eighteen inches in height in less than thirteen months, that Mr. Tucker contemplates very shortly to plant ten thousand trees most of which we understand are already contracted for. Mr. Tucker has evidently studied the modern ideas of our hest viticulturist and planted his vines aufiiciently apart to give plenty of room for their growth. Some of these vines are planted 8 ft. by 8 ft. We understand when the time comes the vines will be trellaced. The surface soil of the rauch is a rich sedimentary deposit of sandy loam about eighteen inches deep overlaying a bed of yellow marl for about eight or nine feet in depth; beneath which is atrata of rich sea sand. At a depth of 110 feet, in digging the well, n mass of clam, cockle and other small shells of different varieties was found, also part of the vertebree of a whale clearly ir dicating that "Twin Fir Vineyard" was once a part of the bottom of the ocean. Forty thousand vins cutting were planted obtained from Clarance F. Wetmore of the State Viticultural Commission, and at the end of the first year it was found that only 600, or one and one-half per cent., of the cuttings had failed to propagete, While this speaks well for the quality of the cu!tings and the care and judgment used in planting, it also shows the more than ordiuary adaptability of Vine Hill soil for vinyard purposes.

Mr. Tucker has gone into this investment as a business proposition and though much labor and a large sum of money has been spent in bringing this property, and so rapidly, into its present condition, the expenditure has been as economicol as was consistent with early success and financial reward. The entire control and management of the ranch is in the hands of Henry T. Tucker, Esq., brother of the owner, who devotes his whole time to every detail, and in instice to him, we say, that if nature will do her part as well as the menager does his "Twin Fir Vineyard" will not only yield abundance to its owner but be one of the best paying properties of its size in the

### COIN TALKS.

The returns of savings banks from Califormin lead the list, the average being \$788 for each depositor. In France, more than 2,000,000 depositors are credited with \$503 each. In Rhode Island the average is \$501: in Vermout, \$361. New York has an average of \$349, and New Hampshire, \$355; Massachusetts has \$309; Mains, \$328, and Connectiont, \$255. France, as is well known, is one of the most thrifty countries in the world, and the saving habits of her laboring classes are remarkable. large average shown by California is proof of the claim that is so often put forward for that State, that wages are as a rule higher there than elsewhere, and that the expense of living, particularly of food, is less than on the Atlantic sea-board, and that the climate is such that labor is employed during all the year. There are none of those long breaks in employment which occur in the Statea of the eastern and central parts of the Union. The grain fields are plowed and sowed between November and February College. and sowed between kovember at a very arry, then follows the eare of orchard or vineyard, until the period of haying and harvest in May. This harvest period lasta along until it rounds out the year in October.—American Agriculturist.

#### A GREAT WINERY

One of the most important, if not the most important enterprise in Santa Rosa, is I. De Turk's winery. The buildings occupy an entire block between Railroad and Adams street. Mr. Isaac De Turk is, we b lieve, a native of Pennsylvania, and commenced planting vines in 1863, and laid out a vineyard of twenty ecres near Santa Rosa. He increased this vineyard and added a wine cellar. Later, to take advantage of the great quantity of grapes coming in from small vineyards in the viciuity, he established a branch winery in Santa Rosa. The Santa Rosa winery soon exceeded the home place in extent of business. A few years ago, the building being wood, was partially destroyed by fire, and water being scarce, the contents of the vats were used to extinguish the flames Mr. De Turk immediately rebuilt with brick. This building is the lower one in the rear of the main and larger cellar, and is 100 feet by 66 feet, two stories. About this time, Mr. De Tark, to save freight on grapes coming from Cloverdale, opened a small winery there, and sold his original home vineyard winery. He also laid out a new vineyard on a rich slope on the Santa Rosa and Glen Ellen road, with the finest varieties of foreign grapes. Mr. De Turk sold the Cloverdale branch winery, as we have said, to Siuk, Lambert, and others of that place, and commenced the building which stands in the foreground of the eastern view of his property, and part of whose interior we also represent. This building is also of brick, and like the first one, two stories high, but has more elevation. The two buildings with the yard, offices and distillery occupy the entire block, and the capacity of the establishment is 1,000,000 gallons, and the estimated stock of wine on hand at the beginning of this year was said to be 700,000 gallous. The cooper's shop, which is necessarily a large establishment, is on the block opposite to the winery, and does not show in the view. The winery is said to be the largest in California, that of Senator Stanford, at Vina, excepted. The crushing room is furnished with two crushers and stemmers, each having a capacity of six tons an hour, fed by tramway trucks running up from the scales. The distillery is in a detached building, and is fitted with two stills, one for pummace and one for wine. Mr. De Turk has been for years recognized as one of our leading viticulturists. For two terms he has hold the honorable position of State Viticultural Commissioner for this district, and has always been respected as one of the most experieuced and practical members of that body. The vines of Mr. De Turk are well-known all over the United States, and it is no on ommon thing to see a train load of cars leave his warehouse loaded with wine for Chicago, St. Louis or New York. Mr. D. Turk has gained a reputation for the purity of his wines, and has always been an oncompromising opponent of advocates of atretching, tlavoring, coloring and other schemes of that demon of the wine cellar, the so-called "chemist." Mr. De Turk's great specialty is his clarets, but it is hard to decide whether his choicest product is his claret, or his Riesling or his brandy. Mr. De Turk makes sweet wines, both red and white, and sherries. Santa Rosa may well be proud of its enterprising citizen, Isaac De Turk.

The MERCHANT has a large circulation in the Fastern States and Europe.

#### GRAPE GROWING OBSERVATIONS

Poor indeed is the grape-grower whose land is poor. Better work for your neighborlag vineyurlist by the day or mouth, and at moderate wages, than undertake to cultivate land on which you cannot expect, with a reasonable degree of certainty, to grow a profit thle crop.

See that stakes and trellises are sufficiently strong to support the vines when in full I af and fruit. To have them break down in a shower and heavy wind is a misfortune and a laborious job to straingthen them out again, and is alays attended with more or less injury to the vines.

Grape protection bags, mode of specially prepare paper-water-proof and practically indestructible-were shown by President A. W. Pearson to the members of the N. J. State Horticultural Society at the last meeting in Trenton. They are manufactured by a firm in Philad Iphia.

Mr. Espendanb, one of the most extensive and successful vineyardists in Kansas, gives his rule for pruning grape vines as follows: "Trim away from a three-yearold vine in good condition all but twelve feet of new wood, divided among the different branches, and train the arms of the viue as much as possible in a fan shape on the trellis. Give older and stronger vines msre wood; weaker ones less.'

#### BOTTLING WINE

The curious discovery is reported from France that good old wine is differently affected by bottles of different manufacture.

Wine kept in so-called Ronen bottles improves, while other bottles seem to impart the harsh thivor of new wine. The chemist Peligot, goes so far as to attribute the change which wine kept long in bottles andergoes, to the action of the ingredients used in the preparation of the glass. It appears that an undue admixture of lime and magnesia, which are often substituted for soda and potash on account of their cheapness, acts injuriously upon the wine. In those bottles in which the wine naturally improves, the proportion of lime is found not to exceed 15 or 20 per cent .- Exchange

#### San Francisco Savings Union. 532 CILIFORNIA ST., COR. WEBB.

FOR THE HALF YEAR ENDING WITH THIRtieth June, 1888, a dividend has been declared
at the rate of four and one-half [15] per cent per
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flaxes, payable on and after MONDAY, 24 July,
1888.
LOVELL WHITE, Cashier.

#### Dividend Notice.

THE GERMAN SAVINGS AND LOAN SOCIETY, 520 Cal forms street—For the half-year ending June 30, 1888, a dividend has been declared at the rate of four and one-half (43<sub>2</sub>) per cent per annum on Term Deposits, and three and three-quarters (33<sub>2</sub>) per cent per annum on Ordinary Deposits. Payable on and after HONDLY, July 2, 1888.

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Inquire of "W. H.," office of the San Francisco MERCHANT.

#### A VINESEPTING DEVICE.

P. Waltenbaugh of this valley has a contrivance for lifting fatlen vines while cultivating or clod-mashing. Two narrow strips of steel are joined at one end so as to form an angle of about thirty d grees. The other end of the strips is then fastened to the cultivator, clod-masher or weed cutter, in such a way as to allow the low-r strip to extend forward, from one corner and just escape the ground. The joined ends thus slip under the fallen hushes, and the upper strip gently lifts them, while the cultivator or other implement passes under. Two are used, one on each side. In this way it is possible to stir the soil of the viney.crd and break the capillary tubes throughout the season-Livermore Peruld.

Subscribe for the MEECHANT.

San Faancisco, Cal., July 1, 1888.

The Bradstreet Mercantile Agency reports 424 failures in the Pacific States and Territ ri s for the first six mouths of 1355 with and to \$3,531,600 and liabilities \$6,-381,046; as compared with 348 for the previous six months with assets \$5,128,881 and liabilities \$15,957, t20, and 423 for the corr sponding six month in 1557 with assets \$2(1,34) and liabilities \$2,102,376.

The falores for the past six months are divided among the States and Territories

STATE.	50.	ARRETY.	LEARILITITE
d forma :	31.4	\$13,215,800	\$5,631,15
re_on	741	322,656	543, m
ashington Ter	333	49,(8)	141,44
evada	1	1,150	7,45
nzona	4	5,100	13.75
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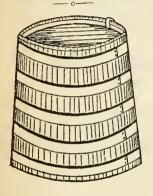
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What is called It ath valley, as the Enreka Sentinel, is g nerally supposed to liwholly within the State of Nevada, The is but partially true. As a matter of f it is but a portion of the great C I rad des rt stretching southward for more than 200) mi - to Fort Yuma. The lower part of it, however, is in Nevada, being about 300 feet below the level of the sea. It is not impossible that some of the popular superstitions about this valley may be dispelled in the future. There is much g land in Death valley, and the fact that it must be the natural reservoir of the many streams pointing in that direction would indicate that it is possible of reclamation at small cost. There is no want of water in many places by m rely going through the sand a distance of from three t six feet. It is related that some years ago, in digging the grave of a prospector who had penshed from thirst, an abundance of wat r was found at a depth of three feet. Thman could have saved his own life with his naked hand in fifteen minut s by delving in the sand. All this shows that water may be easily and ch aply brought to the surface, and possibly in sufficient quantitito reclaim and beautify what is n w regarded as the most sterile and drealfu spot on the North American continent. With water for irrigate n, all the rank v. getation know to the t rrid z'n, might be produced in the hot climate and I wland of Death valley in greatest luxuriance But who that is now living will be there to

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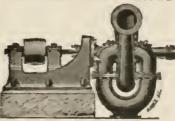
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12,00 M	For Haywards and Niles	* 3.47
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	For Sacramento, and for )	9,45
° 4.30 p	For Niles, San Jose and	* 845
5.30 P	For Haywards and Niles	7,45
6,30 p	(Sha-ta Route Express, for)	7.45
8,00 p	Sunset Route, Atlantic Express, for Santa Barbara, Los Angeles, Deming, El Paso, New Orleans, and East.	8.45
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VOL. XX, XO. 9.

#### SAN FRANCISCO, AUGUST 3, 1888.

PRICE 15 CENTS

#### REGULATING THE VINTAGE.

#### Instructions to Inspectors of the Board of State Viticuttural Commission.

In view of the present outlook for a large crop of wine grapes in the coming vintage, many wine makers have been induced to harry their wines into the market at ridiculously low prices, causing a comparative stagnation to the industry in many wine producing sections. This, augmented by the evil effects of exaggerated estimates of the expected crop of '88, have greatly demoralized our grape growers who follow the example of wine makers and are already offering grapes at prices which will not suffice to pay more than one-half the expense of cultivating the vineyard.

We too't to the future for permanent relist from these improper causes. Correct congressional legislation must be our ultimate redemption. The increased consumption of our wines, which increase amounted to over two million gallons in 1857, will assist ns in a few years; but in the meantime many growers are threatening to pull up their vineyards and sacrifice to the temporary glut the results of great expense and years of patient labor. Our vine growers generally have used all means within their power to spread the use and popularity of their pure California wines, but notwithstanding all this, the fact now becomes plain that last year's ruinons prices for wine grapes are not only apt, but are sure soon to prevail and even lower figures are threatened in sales already made. The dealers tell us that over-production is the cause of the present condition of the market therefore let us face the music and if a mutual understanding can be reached among growers-the dealers and makers assenting in advancethere lies within their power a means of at least partly remedying the evil.

The objects of this paper are to call upon the vineyardists in each different section to unite in their separate associations, in an endeavor to so diminish the production of wine in the approaching vintage as to insure paying prices for the grapes. Incidental to this it becomes necessary for the inspectors and officers of this board to advise and instruct their co-laborers in the various means of disposing of that portion of their grapes which they may decide to withdraw from wine making.

For the consideration of the various local organizations throughout the State, I suggest the following, which, generally supplemented with appropriate details will furnish immediate relief to the grower, and interess permanently the stability of our future wine markets: Let it be decided that one-half the grapes produced in the locality shall be withheld from the wine maker, unless the sale of the whole of any vineyard can be made at an average price to be decided upon as sufficient to properly compensate the grower in that district.

It is estimated in some places to cost on an average \$15 per ton to raise and deliver grapes, if this bethe price decided upon, let each grower sell one-half his crop at the best price obtainable; with the understanding that the other half can be sold only on condition that the price of the whole shall average \$15 per ton or over, this will induce each grower to demand a high figure for the first half in hopes of thereby becoming enabled to sell the balance. If the first half be sold low, the second half must reach an improbable figure to enable him to sell.

Again if there be any classification of grapes in the locality, only the most desirable vineyards will be made up entirely into

It is known that for many reasons serious difficulty is encountered, inducing vineyardists to join and remain true to common understanding of this nature. This is the case particularly when the industry is in a prosperous condition, and when the regulations impose any serious penalty or expense on compliauce, but here and now there exists a condition of affairs very different. If one-half the grapes be withheld from wine, the price of this latter commodity still plentiful in the cellars of the maker, held unsaleable since last year, will advance in value. Thus the measure brings relief to the wine maker as well. He, too, haifs with equal pleasure this means of reducing production

#### OTHER USES FOR GRAPES.

To the producer of grapes there comes no penalty with the proposed plan, for at the low prices now promised there is little difficulty in disposing of the unsold half crop by other means, among which are the following:

- 1. Drying.
- 2. Distilling.
- 3. Vinegar making.
- 4. Selling fresh to local markets.

5. Boiling into cheap syrup for domestic use or sale.

DRYING .- By this means, it has recently been demonstrated that the grapes may be made to net the grower from twelve to twenty dollars per ton-varying with the adaptability of the locality for the process. Many carloads of dried wine grapes were shipped from California last year, the lowest price realized being 31% cents per pound. this-allowing 31's dollars per ton of fresh grapes, for the expense of drying-nets the grower eighteen dollars per ton for fresh grapes, be they Malvoisie, Zinfandel, or Mission. Better prices than this will doubtless be realized, for it goes without saying that 31/2 cents per pound for a healthful dried fruit like raisins, will call up an immense demand from home markets, not to mention that of foreign countries

DISTILLING.—Here, again, is an important means of disposing of the half surplus which may arise, a means to which certain localities are particularly adapted, and for which they are provided with abundant appliances, even with the present low price of brandy. All of our surplus could be worked off at ten to twelve dollars per ton for the grapes, prices paid in some sections last year for grapes of inferior quality, and figures which would at least make the grower even, when computed with the better price realized for the half of the grapes sold to the wine maker.

VINEGAR, - Sales were made of spoiled white wine last year to vinegar makers for 14 cents per gallon. Much more was de sired of this wine than could be bad at the price named. Nearly all red grapes may be used for wine vinegar if pressed without fermenting, thereby obtaining a white winthe only kind desired for vinegar. This pays the grower over twelve dollars per ton for the grapes, besides assisting to provide the public with a healthful substitute for the vinegar so commonly sold and denom inated as eider vinegar, retailed at 15 cents to 25 cents per gallon, but which, in reality, is only vinegar made from grain spirits, the by-product of yeast manufacture-which vinegar is commonly sold to the trade of from four to six cents per gallon.

Local markets will, if properly managed, take great quantities of home-made vinegar. Vinegar properly made from wine. Where known to be pure, wine vinegar brings from 25 cents to 50 cents per gallon retail. These prices, if realized by our grape growers,

would make the grapes far exceed their present wine value made up in this shape,

FRESH GEAPES.—Grapes shipped in bulk to local markets, to the markets of the large towns, or those of San Francisco have—where not packed expensively—nsually realized satisfactory prices.

There has grown up a larger demand for grapes in bulk, among the Italians of San Francisco, who make therefrom a cheap wine. This manufacture interferes but little with the demand for sound wines mada at the vineyard, as they, by their own processes, are able to extend the volume of the product into cheapness itself, and thereby obtain what they are otherwise mable to buy.

The amount of grapes used fresh in the towns is found to be greatly increased by offering them at growers' prices.

BOILING INTO SYBUE,—A very healthful article of dict may be prepared by ordinary boiling of the juice or must of the grape. Cheaper syrap may be obtained by this means than by any other. Many years ago when grapes were very low, growers found an important outlet by this means; the same being sold through the trade in jars and kegs for family and domestic use. Large quantities of this product are annually consumed in sweetening Ports, Sherries, Angelicas, etc.

Means of disposing of the surplus, other than the above-tammed, will suggest themselves to the growers of grapes in various sections, and it will thus be found that it needs only a proper appreciation of the value of our grapes for purposes other than wine making to convince grape growers, wine makers, dealers, all alike that the plan indicated for reducing temporally the yield of wine, thereby improving values—is not only possible, but entirely feasible."

J. H. WHEELER,

Chaf Executive Vitica tural and Health Officer.

The next issue of the Merchant will contain reports forwarded at the instance of the State Viticultural Commission from grape-growers, throughout the different countries of the State. On this will be based the official estimate of the incoming crops. So far the returns from the various counties are incomplete, and the work of systematizing has been delayed thereby. Every endeavor is now being made to hurry the matter, and thus enable some correct idea of the product to be formed.

#### FECUNDATION OF PLANTS

A recent bulletin issued from the Experiment Station of the University of Minneecta, contains the following interesting information on the natural and artificial fecundation of plants:

We are in the habit of hearing much about the means used for improving our fruits, vegetables and flowers, and I thought a few remarks on this subject, in a direct, practicel way, would be interesting.

I design, first, to indicate how fertilization in plants may be accomplished naturally, and then; how it is done artificially. To make myself the better understood, I have thought it best to define, in a general way, the great divisions of our cultivated plants and some of their fruits.

Plants are divided, according to the length of time they live, into three classes: Annuals. Those which come from the seed, and produce seed in a single season; as beans, peas, corn, wheat, oats, barley and the like.

Biennials. Those which live two seasons come from seed one season, and die the next, after flowering, as:—turnips, beets and carrets.

Perennials. Those which live from year to year, as our forest and fruit trees, shrubs, grape vines and horse-radish.

A flower is that part of a plant in which the organs of reproductions (stamens and pietils) are situated, and which consists, principally, of a single group of these, surrounded by a floral envelope (the calyx and corolla). But the organs of reproduction and the floral envelope are modified leaves.

The general taws which govern life prevail in plants, as in animals. They have organs of nutrition and organ; of reproduction; but there is nothing in plants corresponding to the mouth and stomach and alimentary canal of animals; and nutrition takes place in a very different manner.

The organs of repreduction in plants are not permanent, but fall off after fecundation has taken place. Fecundation or crossing in plants can take place only when the plant is in blossom. For this reason, there is no danger of bienuials, as carrots and parsaips, crossing the first year. Nor will plants like potatoes, artichoke, horse-radish, raspberries and strawberries when propogated be offsets, divisions, runners, cuttings or layers, fail to produce like the original. One should bear in mind, however, that those may be changed to a great extent by selection, and that at times they may sport.

As an illustration of the great improvement and the changes wrought in the plants by different methods, I have chosen the etrawberry, because it is well known, and because it offers a very strong illustration of change under cultivation. In 1746, there were known, in France, where this fruit was early cultivated, only three kinds of strawherries. The varieties of the present day are almost innumerable. In the parentage of our cultivated strawberries, enter, perhaps, five different species, of which the Fragaria virginiana, or our common wild strawberry, bears the largest fruit. A comparison of the fruit of this, which is small, even when developed under the best circumstances, with the fruit of auch a variety as the Sharpless, which, nuder special cultivation, has frequently been produced three inches broad by two inches long, will show the great change made in the size of the fruit by cultivation.

fertilization, and the selection of the best of each kind.

Let us for a moment glance at the construction of the strawberry blossom, where the originating of these changes must commence.

The strawberries have two kinds of blossoms:

1st. What are called perfact or hermaphrodite blossoms; that is, one in which both the male and female organs are fully developed. Examples of which are Wilson, Iron Chal, Capt. Jack and Countess.

2d. What are called pistillate; or blossoms in which the female organs are alone, or mostly developed. Examples of which are Crescent Seedling, Manchester and Minnetonka Chief

We find these blessoms made up of several parts; what would be termed the outside of the blossom before it is opened, and the under part of the blossom after it is opened, is the calyx, and is made up of ten separate pointed leaves, each of which is called a sepal. It remains on the berry when the fruit is ripe.

Just above the calyx, we come to a circle of five white leaf-like structures, which is the corolla; and each separate leaf is called a petal. New, if several sepals are very carefully pulled off of a staminate variety where they separate easily from the stem, we find growing to the bottom of them. several little yellow appendages. These are the stamens which are the male organs of the plant and drop off after fecundation has taken place. These are made up of a little stem with a swelling at the top. The little stem is the filiment, and the swelling at the top is really a little pod called the auther and is filled with a fine yellow dustcall the pollen.

If we now remove the rest of the corolla and the calyx, we have left what appears to be a very small strawberry with delicate hairs growing up all over it. These little, delicate hairs, with the little swelling at the base of cach, constitute the pistils or female organs of the plant. Each of these is made up of three parts; the stigma which is a little sticky enlargement on the tip of the hair; the style which is the hair itself connecting the stigma with the swelling at the base, which is the ovary or future seed.

The little strawberry itself, or what is left after removing the seeds, is called the receptacle because it holds and supp rts the seeds or ovaries.

In order to have a strawberry produce fruit, it is necessary that some of the dust or pollen, from the anthers of the stamens come in contact and adhere to the stigma of the pistils. By this means, fertilization or fecundation is produced and the seed is formed.

Without this fecundation no seed would be formed and nature apparently is not willing to develop a luscious receptacle or berry unless she in turn can use it as a resting place for seeds. For unless the strawberry can produce seeds, we have no fruit

And just here noother interesting feature comes in, and that is the fact that no matter how much pollen from an apple or pear tree or currant bush, or any other dissimilar plant, may come in contact with the pistil of the strawberry, it will not fertilize it

been produced three inches broad by two inches long, will show the great change made in the size of the fruit by cultivation.

These changes were brought about by cross

On account of the above reason, it has in practice been found necessary, for the best snecess in planting such pistillate varieties as the Crescent Seedling and Manchester, to have at least one row in every seven of some strongly stanninate variety, as the Iron Clad or Wilson. These latter have abundance of pollen to fertilize their own fruit and that of their neighbors. Caranust be taken, however, in securing a stanninate variety for fertilizing a pistillate one, that both shall be in blosson at the same time, or it will not produce the result desired.

Pollen is distributed in strawberries by inaects and the winds. The auther bursts open when it is ripe, and its pollen floats on the air and is very much diffused, or some bee in its wanderings and investigations for honey, lights on the staminate plant, and the pollen collects on the hairs on his legs and then he may go to some pistillate variety, where the pollen grains on his legs come in contact with the sticky end of the pistil and is left to produce fecundation.

Where strawberries are grown with a view of producing new varieties, fecundation is done by hand. For this purpose, three tools are required; a camel's hair brush, a delicate pair of scissors and a piece of fine muslin. If it were decided to cross two such berries as the Iron Clad and Chas. Downing the way of precedure would be something after this manner. As soon as the Iron Clad is in full bud, and before the blossom is opened, it should be covered with a little muslin bag, or wire gauze, which fits suug up to the stem, though wide enough at the top to allow the flowers to open. When the blossom has fully expanded the muslin should be removed, and the stamens carefully cut off below the authers. The muslin is then replaced. In a few days a camel's hair brush is brushed over the stamens of a Downing berry, which has plenty of pollen dust, and then touched lightly to the pistils of the Iron Clad, when some of the pollen dust will be found to adhere to them. The muslin is at once replaced, and when the blossom begins to fade, is removed altogether. The plants from the eeed of this hand-fertilized berry will partake of many of the characteristics of both plants.

The operation would be the same when a pistillate variety like the Manchester was to be fertilized; but there would, in all probability, be no stamens sufficiently developed to need cutting off.

#### WINE OR RAISINS, WHICH?

The 1888 crop of California wine is estimated by the State Viticultural Commission at twenty million gallons. The wine market is dull, and the most hopeful prediction which we hear of price is fifteen cents per gallon delivered in cellar at San Francisco next apring, clear of all charges and expenses, and all costs and allowances of handling, storage, insurance and loss by ullage, to that time. Predictions of considerably lower prices are not wanting Assuming 15 cents as the price, and 130 gallons as the net product of a ton of grapes allowing for ullage, we have, as the outcome of a ton of grapes, picked \$19,50, placing expenses of handling after picking, through the winery, the caskage, incurance, freight to market and all expenses to cellar here, at \$7.50 per ton of fresh grapes, we have a net result to the grower of \$12.00 per ton for the grapes picked. If the same

pound, packed in cotton sacks, they will act the producer about the same price per tou for the grapes picked. By experience of observant growers, wine grapes the of Mission, Zinfandel and similar varieties lose in in drying about 314 to 1. Thus 1 ton of fresh grapes will make about 615 pounds of dried grapes, which at 21/2 ceuts per pound amount to \$15,37. The cost of drying in the sun, outside of picking will not exceed 1/2 cent per pound, say \$3.07 on 615 pounds. This leaves a net result of \$12.30 a ton to the producer. Dried grapes have been shipped largely to the East, where they sell against imported currants. One large California house handled 50 cartoads last year and could have sold 100 carloads. Upon a basis of 21/2 cents per pound cost, dealers state that very large quantities can be sold. Grapes properly dried will keep indefinitely. Of the wine made every year no small percentage spoils and has to be distilled into brandy. For every reason therefore, it seems worth while for wine grape growers, who have not sure sale for their grapes at \$12.00 per ton picked, or their wine 15 cents per gallon under conditions above stated to dry their grapes. One hundred or two hundred carloads of dried grapes will make little impression upon the Eastern market. One hundred carloads will use 3,250 tons of fresh grapea, two hundred carloads will use 6,500 tons. In case of drying, let the grapes get fully ripe, with all the saccharine will develop, experienced hands laying them npon the ground when cut from the vine. Upon the ground they will dry, until the rainy seasen without turning, but the safer plan is to dry on trays, which permits stacking in case of rain, and rain is almost. a certainty before the whole crop is fit to. pick or can be dried. If dried upon traye, the raisins should be turned as soon as upper side is dried. Place an empty tray over a full one and reverse them; this turns the undried side up to the sun. When fully dried on both sides, they should be taken from the field whilst stems are dry and brittle, and run through a atemming machine and then through a fanning mill to blow out the atems. When cleaned pack into new white, cotton sacks. A few choice bunches are wanted in boxes as cheap raisins, but usually they will not pay for the extra cost, whilst there is a sure and quick market for the stemmed grapes .- Cal. Fruit Grower.

#### A THRIFFY VINEYARD.

Messrs. Bigbee & Stover's vineyard and orchard on the newly opened hill road to Pleasanton, is one of the notably good plantings of Livermore Valley, and is moreover, worthy of note from the air of thrift which prevades it. The vineyard is somewhat cut up by two creeks, but the waste land along the bank is utilized for melons, and aunflowers; one small corner is planted solid in the latter; another somewhat larger is set in English walnuts, which are making a wonderful growth; a row of apple and cherry trees border one gulch, and a planting of tomatoes and potatoes another. So every corner is utilized, and made to yield an income. No weeds are allowed, and everything is thoroughly cultivated. The young vines, in the third and fourth leaf, are loaded with grapes; the peach orchard in the fourth year, is full-grown, and almost breaking down with fruit. This place is well worth a visit, as showing what may be done with a grain-field in forty

#### VINTAGE AND VINITICATION.

DIASTERING OF WINE AND MUST.

It is a very common practice in Spain, Portugal and the south of France, to add plaster of Paris to the grape juice in the process of wine making. The plaster is either thrown upon the grapes before they are crushed, or it is added after fermentation has commenced.

The reason generally given in favor of such addition of plaster of Paris is that the plaster, by uniting with some of the water of the grape juice, renders the remaining juice richer in angar, and therefore more valuable. If such be really the intention, the desired effect will not be obtained to any degree worth noticing, because even perfectly and anhydrous plaster of Paris unites with only a little more than one fourth its weight of water, while the gypsum thus formed takes up mechanically a con siderable quantity of liquor, and thereby greatly reduces the yield. In order to prove this, we have made the following experiments:

The joice experimented upon was press d from grapes imported into the London mar ket as Lisbon grapes, 48 oz. of which yield ed 32 oz. of jnice. Two ounces of jnice be ing reserved for examination by itself, th rest was divided into three quantities of 10 oz, each, to which were added 1, 2, and 5 oz, of plaster of Paris respectively, or 10, 20 and 50 per cent. The plaster of Paris was added in small quantities, well stirred into the juice, and ullowed to remain in contact with it for twenty-four hours. The clear juice was then poured off the precipitate, and the latter placed apon a cloth and pressed, so as to obtain as much juice as possible. The portion to which 50 per cent had been added had quite solidified, so that no juice could be obtained without pressing, In this manner 9 oz., 8 oz., and 4.3 oz. of juice were recovered of the 10 taken in each ense. The original juice and the three samples treated were then examined fo sugar, free acid, and in two cases for tartaric acid and ash. The results are given in the following tables, the figures showing the amount of substance present in grammag in I litry of inice:

Juice.	Sugar. Free acid cal- culated as T.
Original faice contained	
Juice treated with It	
mus cert plaster SM	)

4:57.9

It will be seen from these data that the addition of plaster increases the percentage of sugar but diminishes the amount of jaice. Taking both effects into consideration, we arrive at the following ealenlation

In the last case, therefore, more than half the sugar in the original juice had to be abandoned, in order to raise the per centuge of the remainder from 13:75 to 15:45. The same effect might have been produced by the addition of 2 per cent of sugar, or by the evaporation of 11:1 per cent of water. In the first case, 2 per cent more juice would have resulted, and in the second case a loss of only 11'1 per cent. against 57 per cent loss by the use of plas-ter of Paris, for the same increase in the amount of sugar, viz. 2 per cent.

From the above we may conclude that plaster of Paris added to grape juice combinea chemically with one-fourth of its weight of water, the gypsum so formed absorbing its own weight of juice, which cannot be recovered by pressing. Nor is this effect altered if the gypsum be allowed to ferment with the must, the only difference being that whereas in the first case the gypsum retains must, in the latter case wine remains absorbed, the relative loss being as great as before.

Diminution of yield is, however, not the only drawback connected with the plastering of wine. The gypsum decomposes the tartrate of potassium present in the juice, insoluble tartrate of calcium being formed, and sulphate of potassinm going into solu tion. At the same time the carbonate of calcium, always present in larger or smaller quantities in plaster of Paris, precipitates the free tartaric acid. It neutralizes some of the other free soids of the jaice, and if present in sufficient quantity, it neutralizes them completely, in which case the phosphatea of the juice will also be precipitated.

The addition of plaster of Paris therefore tends to the more or less complete removal of the tartaric seid, one of the most characteristic constituents of grape juice, leaving only free or combined malic acid, an acid which grapes have in common with all other sour fruit. The place of cream of tartar is taken by sulphate of potassiom, a salt having a perceptibly bitter taste, and acting as a purgative even in moderate doses.

Moreover, as it appears that the amount of tartaric seid increases with the increas ing rip ness of the grape, while the malic acid diminishes, the plastering virtually reduces the the juice of even the ripest grapes to a state of nuripeness, at least as regards the nature of the acids. In the samples analyzed, as above, the tartaric acid present in the original juice amounted to 0.916 grms per litre; in the sample treated with 20 per cent plaster it had been reduced to 0.01 grm., the amount of malic acid remaining the same. The original jnice yielded 4:085 grms, ash per litre, containing 2:415 grms. carbonate of potassium, while the sample treated with 20 per cent of plaster yielded 7.255 grms, ash, containing 0.005 grm carbonate of potassium.

The experiments made with juice with which the plaster of Paris had been allowed to ferment completely confirm the results of the former analyses.

As in Spain, Portugal and the south of France plaster of Paris is very generally added to the grapes, it has been presumed that this process must be of use, and we therefore think it upsafe to draw the conclusion from our experiments which naturally suggests itself, viz: !That plastering is of necessity only burtful and disadvantageous to the wine and to the producer. But this result of our analysis is unquestionable, namely, that the ordinarily stated object of the practice, viz: that it withdraws water, and thereby eff ets a condensation of the must, is not the real object.

In some breweries plaster of Paris is employed for the precipitation of certain albuminous matters which have a tendency to affect the beer in an unfavorable manter, and in some sugar refineries it is used for analogous purposes. It remains to be seen whether a similar object is attained by plastering in the case of wine. But even in that ease the practice would be rendered superfluous by the aubsequent brandying of this wine, which puts a stop to all further changes.

#### A CHECK TO BULLDOZING.

The Livermore Herald in commenting editorially on the situation says:

The stand taken by the vinegrowers of this valley, at the meeting held in Livermore last Saturday afternoon, has cansed a flood of editorial comment by the presthroughout the State. Other districts, too, are becoming aroused, and inquiries regarding the drying of grapes, and the probable market, are pouring into the office of the Viticultural Commission from every hand. Our action is generally commended. The San Francisco Chronicle says editorialle

The determination of the vinegrowers of Alameda county to dry their grapes unless they can get a renumerative price from the wincries, is one which ought to be followed by other vineyardists. Such a plan, systematically carrried ont, would do much to free them from a system that has savored in past seasons of bulldozing,

The Bulletin, in the course of an editorial of nearly a column in length, in which the subject is ably handled, discourses as fol-

The Livermore viticulturists have proposd a measure which is just now attractug some at tention. It is simply the proposition of producers to fix their own prices, which, in this instance, only needs a uniform concurrence to render it effective

If the Livermore viticultorists could bring all the other producers to their way of thinking, and could secure concert of action, there would be no wine grapes nor ahipping grapes sold for less than one cent a pound, delivered at the negreat depot or shipping point. That is a low price for choice grapes, and very far below the figures quoted a few years ago. While it is true enough that the grape crop will be a very large one, in relation to California, it will be a comparatively small one in relation to the whole country. It is this broader view that is to be taken into consideration touching the inture prospects of the viticultural interest here.

The Oakland Tribune of Tuesday, under the eaption, "The Livermore Grape Growers," devotes a half-column to suggestions in behalf of the industry, and the solution now before us. It suggests co-operation and sweet wines as follows:

If the grape growers of the valley will combine and organize as a co-operative association, we do not think there would be any difficulty in securing the necessary capital to furnish the plant of a winery large enough to handle their crops, especially if a distillery, as an adjunct to the manufacture of sweet wines of the Port and Angelien classes, be included. As a matter of fact more money has been made by Califormin wine makers in the manufacture of sweet wines than in any other branch of the business. It is true that sweet wines, so called, are not really wine in the true sense, nor are they the kind on which we believe that the reputation of the Livermore district will ev utually rest, that their manufacture is a very lucrative business of great simplicity, which no wine maker can afford to disregard as an udjunct to the general business of making light wines

As will readily be seen by the above Livermore and her vine district have be come important factors in the industrial life of this great State. In addition, her producers, as will also be seen, have the sym pathy of the press and people in their demand for a living price for their product In this valley, with its fine quality and

light crops, it is impossible to raise grapes for the prices realiz d last season without a loss. The growers maintain, however, that wine making last season, proved very profitable, and demand a division of the profits. It would be absurd to ask, at the present time, the price which grapes demanded four years ago, and which they are really and natriusically worth, and would bring, were there general laws against adulteration and the manufacture of sparious winea. The present depressed condition of the wine market, coupled with the increased tonuage of the coming crop, have depressed tha price of grapes, for the present, just as the increase in the area of our alfalfa fielddepressed the price of pork a few years ago. Pork recovered, and so will grapes and wine. But in the meantime, the inanguration of other methods of using our crop, such as drying for Eastern consumption, will relieve the market, and give us better prices for the remainder, which goes to the winery. We believe, however, that the drying of ordinary varieties of wine grapes is to become a permanent and paying industry in this State. The labor is a small item, while three cents a pound will give \$20 a ton for the grapes. Last season the Fresno people shipped two carloads East, on which they placed a net limit of three cents. They received three and a half, More were ordered but could not be sent. More were ordered but could not be sent. Other orders came, and finally an agent was sent out, to secure more of these cheap and inferior raisins. They were found to be in great demand by the poorer people, for puddings, and the like, where they can searcely be told from a Fresno Muscat raisin. J. H. Wheeler, Chief Executive Officer of the State Viticultural Commission, has written to prominent New York houses, asking regarding the demand for these dried grapes, and the universal reply is that all that we can produce can be sold in that city for five cents a pound. Considering this report, we can see no reason why a very large proportion of our grape crop in this valley should not be devoted to this use this season, irrespective for prices for wine making. No outlay is necessary for buildings or even trays, the bare earth being the best place on which to core the bunches. The shrinkage is two-thirds, and the product, unless the barry be very small, a sweet fairly palatable raisin.

#### Cavorite Beverages

Claret cup and champagne cups are fashionable beverages for receptions and ball suppers and are usually provided for gentlemen at garden parties. They may be prepared by the following recipes

To every bottle of claret allow one of soda-water and one of lemonade (or half a siphon), half a wine glass of brandy and a dessert spoonful of Maraschino; sweeten to taste, and, if procurable, put in a sprig of borage and a bit of encumber rind, allowing them to remain in about a quarter of an hour. A sprig of mint just passed through once or twice is an improvement. For champagne cup, allow to each bottle one of seltzer, half a wine glass of brandy, a dessert spoonful of caracoa, and sngar to taste: stir well together with a large spoon and pour into glass jugs, and leave in a cool place till near supper time. In warm weather put a lump of ice in each jug a few minutes before required.

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#### THE VINE AND ITS FROIT

(Continued from page 124.) In continuation of the subject in the Vineyardist, Dr. J. H. M'Carty says:

In Egypt the vine must have received attention at a very early period. Osiris, the Jupiter of the Egyptians, was held to he the first vineyardist. As a god he was worshiped throughout all Egypt at least 1800 years B. C. There are many bas-reliefs and sculptures on the coins and monuments of that ancient nation which prove that the vine was cultivated and wine made from the juice of the grape. This also is shown in that thrilling and beautiful story of the captive Joseph, recorded in the book of Genesis, who in prison interpreted the dream of the king's chief butler. It brings to light the fact that grapes were grown and in use in that day.

"And they said unto him, We have dreamed a dream, and there is no interpretation of it. And Joseph said unto them, Do not interpretations belong to God? tell me then. I pray you.

"And the chief butler told his dream to Joseph, and said unto him, In my dream, behold, a vine was before me;

"And in the vine were three branches and it was as though it budded, and her blossoms shot forth; and the clusters thereof brought forth ripe grapes;

"And Pharaoh's cup was in my hand: and I took the grapes, and pressed them into Pharaoh's cnp, and I gave the cup unto Pharach's hand."

The custom of expressing the juice into a drinking cap for immediate use is here incidently shown. This was one of the regular duties of the king's cup bearers in ancient times. The custom should be revived, and is, we believe, in New York at this time. Let us have restaurants where grape juice can be had "on call," expressed in one's presence, and flavored to suit the taste. When the Israelites were on their way to the " Promised Land " they grew very impatient at times. They were anxious to be free men and to possess the "goodly land," where it was said there were "vineyards which they did not plant," showing that even the old Canannites culti vated grapes; but they did not like the long marches and daily privations which the exodus involved. They were human. Most of us are unxious to have the "good things" of this world, but are not so willing to eadure the hardships. We forget that out of the toil and struggle of life comes its best blessings and greatest victories. So they complained. Hear them chiding Moses

"And why have ye brought up the congregation of the Lord into this wilderness. that we and our cattle should die? And wherefore have ye made us to come up out Egypt, to bring us to this evil place? it is no place of seed, or of figs, or of vines, or of pomegranates; neither is there any water to drink.

There were vines in the land in which they were going, but they did not know it. This shows that they knew about the vine and loved its fruit, for they longed for the land they had left.

The vine is supposed to have come into very early use, if not the earliest, in the hill country south-east of the Caspian sea, which lies between Asia and Europe, and there, as in Palestine, and in fact wherever it has has been most successfully cultivated, it has been grown to best advantage on sloping grounds and even on rugged hillsides, And frequently in soils thin and poor, so as to be quite useless for other purposes. twenty miles, she saw that her switch was

The vine thrives best in a dry soil. The hillside is generally drained naturaly, "Nothing," says the writer, "can be more suitable to situations where patches of good soil are mingled with bare rocks, nor anything more beautiful than the rocks covered with luxurant foliage and rich fruit." This mode of cultivation-on steep, rocky slopes was anciently very prevalent in Jadea.

But wherever the vine was indigenous, one thing is certain-it has conquered the world, for it is a great traveler. It found its way to Assyria, India, China, Italy, France, Germany, America and everywhere In America the wild grapes-the vitis La brusea, vitis Rolundifolia, vitis Vulpina, etc., doubtless have come in some way from the original source of the vine. It was known in Italy and Gaul 600 years B. where it is supposed to have been introduced by the Phoceans. In Italy the cultivation of the vine, owing to the bihulous propensities of the Romans, was carried to a great extent. Indeed historians, especially Virgil and Columella, have given accounts of the popular love of wine especially among the rich. It was so universal and ardeut that more important productions of the soil were neglected, on account of which one of the emperors, as early as A. D. 81, restricted the cultivation of the grape by royal decree. The vine came into the south of Germany about 300 years B. C., and there were vineyards on the Rhine in the days of the Emperor Probus, A. D. 281. Charles the Great, it is said, derived a large amount of revenue from the vineyards in his empire. The Romans brought the vine into England about the beginning of the Christian era, though it has never thrived well in the British Isles, the climate being too moist and cool. Still, grapes have been grown in England to some extent. At Welbeck it is said a bonch of grupes was produced and sent a sa present from the Duke of Rutland to the Marquis of Rockingham which weighed nineteen pounds. It was conveyed to its destination, over twenty miles, on a staff by four men, two of whom bore it in rotation. The greatest diameter of this cluster was nineteen juches and a half, and its length twenty-three inches Then there was a celebrated vine at Hampton Court, the old place of Henry VIII. It was planted in 1769, is a Black Hamburg, and is the largest grape vine in Earope if not in the world, according to popular belief. In the autumn it almost drags down down the house or arbor over which it elimbs. It has been known to yield 2,500 bunches of a pound each on the average, The Queen, whose property this is, preserves these grapes for her own table. The principal stem of this celebrated vine is about thirty inches in circumference near the ground, and is over 110 feet in length. Were it not cut back annually, there is no telling where it would lead to. Its branches now cover 2,200 square feet. We spent a day in 1881, at Hampton Court It was too early in the season for Hamburg grapes, besides Victoria did not tell us to 'help ourself."

We cannot afford to be outdone by England. Hittel intorms us in his "Resources of California," that in 1765, (which was four years before the planting of the great Hampton Court vine above ailuded to), Senera Dominguez, a native of Mexico, and a resident of Santa Barbara county, California, rode from Menterey to her home and before starting she picked up a grape cutting for a switch. When she had ridden

budding. So she took care of it, and after getting to her house at Montecito planted it in the garden. The switch grew, and at the date when the account was published, its diameter was sixteen inches. Its branches were supported by an arbor 114 feet long and 78 feet wide, while its annual yield was three or four tons.

There is a grape vine at Glenora, on Seneca Lake, which the writer saw last summer, of great proportions. Its arms extended fifty feet each way from the central stem, and yielded, in 1888, about 500 pounds of fruit. It is the property of Mr.

#### COST OF LIVING IN CALIFORNIA.

The cost of living is a prime factor in the growth and prosperity of a State. This item is one of the first to be taken into consideration by the intending immigrant, and nothing is easier than to prove the fact that, in California, a family can live better, and cheaper than in any other part of the world.

The Red Bluff Sentinel in a recent issue, taking a remark of Hon. M. M. Estee as a text, demonstrates the truth of the statement as follows:

"A family in California," said Mr. Estee to the State Board of Trade the other day, 'may live fully 331/3 per cent cheaper than in any of the Eastern States.'

"This statement, if true, is a most important one to get before the minds of people who live east of the Mississippi, and who are looking longingly toward California as their future home. If such can be assur ed that it costs less to live here comfortably than it does where they now are, they will be very apt to hasten the date of their coming to our State.

Let us look a little into the truth of Mr. Estee's remark. The best way to compare the cost of living here and there is to take those articles the buying and the use of which make up the aggregate cost of comfortable existence. Such are the staples or necessaries of life. Eegin with flour, for instance. Flour is quoted in the San Francisco markets at \$3.90 to \$4 per barrel. The same quality is quoted in the New York market at \$4.60 to \$5 per barrel; in the Rochester market at \$4.50 to \$4.75 and in the Buffalo market \$4.75 to \$5.25 per harrel. These figures bear out Mr. Estee's statement so far as the great staple of flour is concerned.

Take another article of daily consumption, viz, meat. The San Francisco market reports show the following prices of fresh meat, for one day recently: Beef, \$5 to \$5.50 per cwt; mutton, \$6; veni \$5 to \$7; lamb, \$8. On the same date the New York State markets gave the following quotations: Beef, \$7.50; veal, \$9.50; lamb, \$11. and mutton \$8.50 per cwt. Here again the ratio of cost in favor of California by about one-third.

Another great commodity rapidly becoming a necessity is fruit. In this article throughout all its forms California has a large advantage over the Eastern States, and while we have not at hand the list of prices to show the exact amount of difference, we are safe in saving that the ratio is in our favor by even more than the one third of the foregoing statement. It is surprising how far the single article of fruit goes to supply the daily table of the California family and during how much of the year it is to be here seen in use as a common article of diet.

There are, of course, some articles of

which the Eastern prices are lower than our own. The two principal ones are clothing and fuel, and in these the advantage is more apparent than real. Wood and coal cost much less East than here, but the long and cold winter requires the use of so much of both as to bring the ratio back to not far from equality. So, too, of elothing, although Eastern dealers can, and do, sell some articles below our figures, the greater varieties of weather and extr mea of heat and cold require such an increased expenditure for each family as to equalize the actual cost of clothing for the whole year round.

It is impossible in a single article to extend this inquiry through the whole line of articles of daily consumption. The above examples will suffice to show that Mr. Estee had much ground for his remark. There is another source also from which it may be verified. In 1879, when Mr. Evarts was Secretary of State, he caused to be sent out to all the consular stations of the United States a series of questions as to labor, wages and the cost of living at the various points. The answers to his inquiry ha caused to be published in pamphlet form. together with a brief compilation of their statistics, prepared by himself. From this official source it appeared that the prices of necessaries in San Francisco was one-third less on an average than anywhere else in the world. It is to be presumed that the comparative cost of living has not much changed its ratio in the last seven years."

#### INTERNAL REVENUE DECISIONS

The following is a synopsis of sundry decisions rendered lately by the Treasury department in relation to wine and oil:

Champagne when imported in large hottles called "magnums," holding about two quarts each, there being six magnums in a case, and two cases securely hound tog ther with iron bands so as to form a single package, is not liable to seizure under the provisions in Schedule A (T. I. 810), it being held that said combined packages, which contain one dozen of the said magnum bottles, constitute a substantial compliance with such provision of the statute.

Tin cans containing olive oil, which are harrel shaped and corrugated horizontally to give the appearance and more than the strength of hoops, and are furnished with independent screw faucets for the withdrawal of their contents, and with a screwclosed aperture at the top through which they are originally filled and can be refilled with oil or liquid of any kind after their contents have been removed, are held to ba dutiable at the rate of 100 per cent. ad valorem, under provision in Section 7 of the Act of March 3, 1883, the articles being coverings which are intended for use otherwise than in the bono fide transportation of the goods to the United States.

#### CORRECT.

THE Templeton Times very correctly says: "With all its natural wealth and advantages, California owes a great deal more than is acknowledged of its present and prospective prosperity to the faithful, efficient and generally inadequately compensated work of its newspapers. Week by week, and day by day, the press has pounded away at human ignorance and credulity until the resources of the State are beginning-and only beginning-to be understood by our own people and by thosa of other States."

#### CO-OPERATION IN VITICULTURE

I. D. Combe writing in the Santa Clara Va''ey says:

A few ideas on this subject derived from the experience and efforts of other p ople, may not be amiss just at present, when vin growers are looking around for a solution of a problem that presents itself in much the same shape in all wine producing conn-

The Government of Austro Hungary took the lead in 1882 in a movement destined to benefit the vine crowers immensely, by establishing a model wine cellar at Buda-Pesth In the beginning of the work, the producers were asked to contribute each one 250 gallons of each kind of wine by them made, for an experiment. Not as a gratuity to the Governm ut, but only as an investment and as an earnest that the prodocers desired to assist the efforts of the government in their behalf. These wines were taken charge of by the best conologists that could be procured. They were analyzed, blended, cared for and studied in all phases, with the avowed object of determining with some degree of accuracy what type of wine the country could produce the best, and do so continuously from year to year. The evident purpose was to insure a proper baudling and manufacturing of the grape crop, and fost, r the establishment of a large exportation of Hungarian wine.

The result of such systematic work may be imagined when confronted as we were not long since by a circular dated from the Austrian Hungarian Consulate of Chicago. informing us that a certain bouse in that city was appointed by the above Consulate as agent for the sale of wine direct from the Government Model Wine Cellar of Buda-Perth, under the protection of the ministry of agriculture, commerce and industry. We quote one sentence in full, "It is the aim of the Royal Governmental Model Wine Cellar to supply the world's markets with the best wine produced in Hungary, free from adulteration," How much better that sounds than the Government voice from California.

We all know how much France has done to help viticulture in very way possible, changing her tariff and appropriating large amounts to promote the interests of the producers.

The same problem is engaging at present the attention of Italian vine-growers, especially in the south, Sicily and the Neapolitan provinces. From the trioraule l'inicole Italiano, we gather the following particulars of proposed association for the purpose of manufacturing and marketing the products of every description derived from the grapes of a large section of country around the city of Barletta. It is proposed to establish a large institution and a number of branches, the principal one to own the cellars, to store, blend and market the wines, manufacture cream of tartar, distill pomace and make other products of the vine. The smaller institutions to be formed according to the necessity of each locality or large vineyard and independent in organization of the first in their operations of wine making, but under its strict supervision and authority as to the methods of fermentation; i. e., the technical part of the work. The project is to include as stockholders, proprietors of vineyards only, or producers who rent. The grapes could form the capital of the lesser companies, and the large one would make advances on

cellar. Capital stock, two millions of dollars, divided into 20 series of shares of 500 each at \$200 per share. The intention is thus to have all wines mad according to the instructions given by the best talent in the country, and the blending calculated so as to produce special types of wine, possible to those localities and acceptable to certain markets to be established or already known.

Association and co-operation seems to b., in all countri s, the only possible remoly that is to procure to the toiling vine-grower his legitimate profit, and we will watch with much interest the progress in this country, and any other of any plan that promises to ameliorate the lot of the humble vintner.

#### VINE GROWING IN VIRGINIA.

The following notes, observations and comments from a prominent vineyardist of Lynchbarg, Virginia, are reproduced from the columns of the Fruit a disrape Grower, published at Charlottsville, Va. I only succeeded in getting one-third of a

grape crop, but suppose I ought to deem myself lucky, as so many in your section had a total failure. The crop suffered tremendously from couldre; during the blooming of the grapes rained almost every alternate day. The Elvira suffered the most, setting very little fruit, while the Norton and Cynthians suffered very little, owing to their blooming later. The next scourge was the rot which set in very carly. I had hoped to have not been bothered much with it as the year previous all the rotten berries had been gathered and burnt, a thing which was fairly easy then, as the vines were just coming into bearing and had only some two to three pounds per viue; also all the wild vines in the vicinity had been cut down so as to check any infections; but, however, these seemed to be of little avail, and owing to the wet season, I counted at least four to five different and successive attacks of the black rot during the season. On the first sign of rot half a dozen men were started to gather and burn the infected berries, but no sooner had the vineyard been all picked over when another attack set in, caused by the wet weather, and the whole thing had to be done over several times. This showed me, Lowever, that if there had been a full crop, it would have been practically impossible to have gathered the rotten berries. Firstly as the necessary quantity of labor would be hard to get at the time, and also the cost of gathering would be great and make the business unprofitable, unless the grapes were good market varieties, or fetch some three to four cents a pound as wine grapes. At all events, I saved a small crop through doing it, and when practicable believe one would always insure a portion of his crop. I tried sulphate of copper on a small scale. and its effects seemed very beneficial, and also I can be pretty certain in saying that sulphate of copper can check and kill the spore of the black rot. After the berries were attacked with the rot I covered them over with sulphate of copper ground to a powder, and in every case the fungus was checked, and actually some of the bernes matured. Also, I met with a success in bagging, but done early. I believe the cost for bagging is put at about one-half cent per pound, and, as I find my bags would do for snother year, it ought to pay profitably to bag all market varieties, and wine grapes that bring three to four cents per pound and then, by limiting so many bags per the receipts of the young wines in the main vine, would naturally get larger branches vessels or tuns are commonly made of oak,

this year against rot, all the vineyard has been raked, and leaves, prunings and debris burnt; also, I am experimenting with gas time, which I am told is a fungicide and insecticide as well as a fertilizer. Owing to my being south I did u t commence pruning till April 1st, and fir ished about the 20th, the sap was in full flow and I don't below there is a particle of dam go d no and so have come to the conclusion that there is a good deal of useless talk about when to prune and other matters. One thing I observe from it and that is it retards the vines from putting out some ? to 10 days, and so would preserve them from a late frost. This late | runing I see advocated in California on that account, and also in Thudichum and Dupre's book in a careful experiment made. They cannot find any diff rence between those pruned when sap was running and others cauteriz ed. Another mode of dealing with the rot, which probably would succeed, would be in taking an extra large crop every alternate year, and in the intervening year no crop at all, so as to kill out the fungus. This would naturally only act when there were no other vinevards in the vicinity. In a former article article I mentioned som 3-year-old Concords averaging 30 pounds per vine, but in rich garden soil. following year, however, they actually bore some 10 pounds per vine, losing a little from rot. That shows what can be done on good soil, and also that there is not much fear of making young vines overbear when in it.

#### TREATMENT OF WINES.

The grape crop having been cast into the fermenting tons or tanks, its subsequent treatment will depend upon whether we wish to produce white or red, sweet or dry wines. In many red wine countries it is usual to detach the berries from the stalks before attempting to express their juice; in other districts this detail is neglected. In all cases, however, the husks remain in contact with the liquid, the time of their sojourn being determined or regulated by the shade of color required. For very dark red wines, they are maintained beneath the surface of the fermenting liquid by a net work frame or cover, placed with in the tun some inches from the top. This is probably the best system; it is certainly superior to that prevalent in Burgundy, of repeatedly breaking up the scum in order to resubmerge the skins that have been brought to the surface with other extraneous matters by the escaping carbonic acid gas. Burgundians argue that they produce a deeper and much finer coloration, but even if this be the fact, they also induce a tend-ney to rapid acidity, and hence all other advantages are more than counterbalanced.

The preliminary mode of treatment in white wine regions, is essentially different from this in every particular. Nor does does this depend upon the color of the grapes themselves, since many of the deep red species such for example as the Bour giguon of France) serve as the basis of the best champagnes in the markets. produce the white wines, the husks, stalks the suice, and in order to effect this, the grapes, instead of being tramped with the feet, or otherwise treated en masse, are always submitted to pressure in a wine press Although the ordinary fermenting

and finer fruit. As a further preventive it is not unusual to meet with large brick work tanks, built especially f r the purpose, and lined with P riland cement. This latter, however, is a modern introducti n of very doubtful value. The tun or tank must, of course be left open at the topt allow a free passage to the escaping carbonic acid gas, and should never be of too large or u manag able size, as if too 'arg it is impossible to ensure simp taniety of action through int the mass, either at the commencement or end of fermentation.

In grapes that have be n barvested doring extremely werm weather, the fermentation commonces immediately after they have been cut, and with proper subsequent regulation of the temperature, should be in full activity at the end of 21 hours. This regulate n of the t mperature, therefore, becomes a very important item, and it has in fact been proved by long observati n and experience, that it is proper to commence at 55 deg. Fahr, as a minimum both for the must and for the surrounding atmosphere, and that the liquid itself should never be allowed to exceed a maximum of 90 deg. Fahr. Bey ud this point the glucoses are decomposed in other substances than alcohol, and the latter body itself becomes volatilized and passes away in the form of vapor, with the carbonic acid. The arrangements as to temperature, adopted by most large wine growers in France, are very simple. They provoke a free draught through their sheds or cellars, and constantly sprinkle the tons or tanks with cold water when the atmosphere is very warm, or surround them with either plaited straw, or woolen blankets. when it is somewhat cold.

#### COMPLIMENTS FROM THE EAST,

The V swardist, the well-known viticaltoral journal of New York and the Eastern States, under the caption of " One of our best exchanges," pays the following compliment to the representative of the industry in California and west of the Rockies:

The San Francisco MERCHANT, the only viticultural paper in California, and one of the very best in America, is published semimonthly at \$3 per year, and devoted to grape, olive and other fruit culture, wine and other manufacturies, productions and commerce of the Pacific coast. It is worthy of the highest commendation and confidence, as an exact and reliable anthority. in regard to the interests named, and is always foll of interesting and valuable information.

The last number of the MERCHANT received by us contains four leading articles, copied from the Vineyardist, which is highly complimentary to our little periodical, devoted to like subjects, on this side of the continent; and the interchange between tha two, not only links the grape and fruit regions of Central-Western N w York with those of California, but disseminates much in each section from the other that will bo beneficial to both.

With our best wishes for the continued prosperty and eminent us fulness of the Sau Francisco MERCHANT and its able editor and proprietors-E. C. Hoghes & Co .- we shall pleasurably anticipate the arand seeds must be entirely removed from rival of its future numbers with the full assurance that each one contains a western viticultural feast for the instruction and delectation of the eastern grape and fruit growing reader.

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#### WINES.

[BY JOHANN CARL LECCHS.]

Since unadulterated wines are made from grapes, it will be here not superflueus to enumerate the constituent parts of the latter. They contain, besides water, tartaric acid, saccharine matter, gum and other slimy substances, wax, tannic acid. albumen, resinous coloring matter, fibrin, odoriferous matter, coloring matter, astringent substance, tartar, sulphate of potash; chloride, sulphide, phosphate, and citrate of calcium; and more or less impurities adhering to the surface, such as particles of the seil and the like. Of these ingredients, the acids, the slimy substances, and the astringent matters are chiefly found in the green grapes, but disappear more er less with their progressive ripening, being by the working of nature transmuted into sugar. These enter also into the must, but to a great part separated during the fermentation, viz., the fibrin, the wax, some coloring matter, a part of the albumen, the resinous matter and slimy substances, with the earthy and other im purities, which settle as lees on the bottom of the barrel, together with the tartar, a part of which incrusts also the sides of the

- 1. Water constitutes the principal part of wine, for the best ones centain at least sixty per cent. of it, the poorer wines eighty and even ninety per cent. The grapes will be mere watery, and consequently the wine more weak, in wet years; or if they grow in a moist seil; or if rains predominate shortly before or during the vintage.
- 2. Tartaric acid is found in the stems, in the tendrils, and in the green grapes themseives-partly free, and partly combined with petash.
- 3. The saccharine substance is fermed by the ripening of the grapes, and this takes place the more successfully the more the grapes enjoy the heating influence of The saccharine matter is decemthe sun. posed by the fermentation and transmuted into alcohol.
- 4. The gum and other slimy matters are not injurious to the wine except by impeding the clarifying process.
- 5. Wax and resinous coloring matter are found in the husks of the grapes.
- 6. Tannic acid and other astringent matters give to the red wines a tart and harsh taste if fermented too long upon the
- 7. The albumen found is only in a moderate quantity in the grapes, and settles essy with the lees.
- 8. The odoriferous substance is in some kinds of grapes more copious, for instance, in the Riesling and in the Muscats; and if these are mixed in a certain proportion with the others less odorifcrous, a fine bouquet is imparted to the whole mass.
- 9. The coloring matter has its place on the inner side of the husk, from which it is disengaged during fermentation; therefore the longer the red wine is left in the fermenting-tub on the husks, the deeper will become its color.
- 10. Most of the above-mentioned neutral salts will also settle with the lees, and partly crystallize out of the wine the older it becomes.

#### HUNGABIAN WINES,

1. We will here mention the most cele brated wines of Hungary. The first is the world-renowned Tokay. Of this there are

table wine. Of the sweet wines the first is the "Essence." which is collected in vessels put under baskets containing the halfdried grapes (Trokenbeere), the juice of which drops by its own weight partly out. The second quality is the so-called "Ausbruch," made in the following way: when the above grapes do not yield more "Essence," they are taken out from the baskets and put into some flat vessel, and there, by trending, converted into a pulpy mass, which is then transferred into an open barrell, and the proper quantity of good must added (to eighty measures of the pulp, one hundred and fifteen measures of must), and well stirred up. As soon as the mass is fermenting the whole is again well stirred, and then put into a loose sack and squeezed out, then filled into clean barrels to fluish the fermentation. The third quality is called Maszlas (prenounced Maslash), made from the squeezed pulp in the abovespecified way. The fourth kind is made from the white grapes in the common way.

- 2. The wins of "Menes" (Menesh) i also a sweet wine, not much inferior to the Tokay, but red in color, while the Tokay is vellow. There the blue grapes are handled in the same way as the white ones are for the Tokay.
- 3. The wines of Sirmia. The sweet wines of this province, as well as the others are also of eminent quality, though they are sold mostly under the name of Karlo vizian wines; these of other places in this district are entitled to no less credit for their excellent virtues, as, for instance, those of Illok, Suseg, Cheslevitz, Booscin, Rakovatz, Kamenitz and Peterwardein The red Sirmian wine is sweet, very sromatic, dark red, and mild. The white wine is too spirituous to be drank by itself, and is used to improve poorer wines. Besides these wines they prepare the so-called "Drepwermuth," named from the process for collecting it from linen filters, which, being suspended in a very heated room, the must falls from the filters in drops into the vessels beneath. This half-fermented must remains in small casks for several months sweet, and has some similarity to the Champagne. Another kind of wine there manufactured is the so-called "Rascian Wermuth." The barrels are nearly filled with half-dry blue grapes, without stems, and then a good old red wine is poured over them, with some wormwood and spices.
- 4. The wines of Buda (Ofen) are also celebrated for their fine qualities-especially the red ones of Buda and its environs, and the white ones of Pesth, in the same county-and called "Steinbrucher."
- 5. The wines of St. Endree are also very fine, agreeable to drink, spirituous, and aromatic. Here are also sweet wines made from dry grapes.
- 6. Sekzardy wines may successfully compete with the best Burgundy.
- 7. Pétshy (Funfkirchen) produces good table wines, all of white grapes.
- 8. Villanyer wines remain sweet even when many years old.
- 9. Neszmély furnishes one of the best table wines known, the peculiar aromatic taste of which can not be found in any other wine. It attains its maturity in from three to four years. It is a pity that the spots where these magnificent grapes grow are so limited in circuit. The average product of this wine amounts yearly only to ten thousand barrels, a gallen of which sells commonly for from fifty-five to sixty four kinds-three sweet, and one so-called cents, while other common table wines can these districts you may class with perfect those of Rothenberg; next, Geisenheim;

10. A rival to the Neszmély is another white wine, namely, that of Shemlo, Some even prefer its aromatic taste to that of the Neszmély, though quite of another houquet,

be bought in Hungary for four to five couts.

and many consider it the best wine for the table. Its grapes grow upon a basaltic hill of limited size; the average yearly preduct is about 25,000 barrels.

11. Rust and Œdenburg have also excellent sweet dessert wines, well flavored and spirituous.

12. Besides many others of first-rate quality too numerous to mention, there are also of prominent notoricty the wines of Visonta, Erlau, Presburg. Ratchdorf, St George Posing, Moderu, Gruan, Limbsch, Tyrling, Shenkvitz, Ducova, Nusdorf, Neustadt, etc.

13. Among the wines of Creatin is the Meslavina, equal to the Burgundy; the Babulek and Bukovetz, the most prominent for their rich aromatic savor and strength

14. The wines of Banat, in Lower Hungary, are also generally, on account o' the warm climate, very spirituous, miland spicy. The best of them is furnished by Vershitz, near the Turkish boundary. and Weiskirchen.

To give a slight insight into the enormous wine production of Hungary, I will her mention only a few instances: Premontery a single hill, 55,000 barrels a year; Teteny a village, 65,000 barrels yearly; St. Andree, a village, 70,000 barrels; Mém sh. 470,000 barrels; Pétsh, a tewn of considerable extent, 500,000 barrels; Tolna County, 700,000 barrels. In this county the village of Seskard slone aversges yearly 250,000 barrels, and the county of Pest 255,000 barrels. Hungary may be therefore rightly classed among the first vine-growing cont." tries, her wine produce being neither in quality nor quantity second to any other country upon the globe. Francis Shams, in his c. lebrated work, estimates the yearly average yield at 30,000 barrels. One thirtysecond part of the cultivated lands in Hungary is planted with grape vines.

#### THE RHINE WINES.

Both banks of the Rhine, from its outlet, several hundred miles in circumference, up to the city of Bonn, display to the eye, with but little interruption, their innumerable vineyards. All the wines which are made in these districts should properly be called Rheinwines; but, for the purpose of each particular wine being the more easily distinguished from that of any other, the name of the particular district where each kind is produced is commonly adopted as the title of the wice, namely, Elsasser, Seawine, Marggraffer, Aarblischer, Zaardtwine, and Nanhwine.

Those wines only which are called "Rheingaus," and those made in the vicinity of Mayenes and on the left bank of the river, are by custom designated by the name of "Rheinwines;" and, indeed, these sorts are eminently entitled to this mark of distinction, as they possess, more than any of the others, those peculiar qualities which distinguish the Rhine wines. After a few hours' travel fron Mayence on the right bank of the River Rhine, you begin to enter upon the more favorable regions for the culture of the viue-the so-called "Rheingau." Here the most celebrated wine districts are the following: Asmannhausen, Rudesheim, Geisenheim, Johannisberg, Markebrunn, Steinberg, and Hockheim, which lies toward the east.

Next in quality to the wines produced in

certainty those made on the left bank of the river: e. g., those of Scharlachler, Ingelheim, Laubenheim, Bodenheim, and Nierstein, all of which places are in the vicinity of Mayence, and whose wines are not unfrequently found to give satisfaction even to the ablest connoisseurs; for, even if the stringency and spiciness of the first-usmed class of wines can not be attain 1 by these other kinds, yet these districts have afforded wines, which by their sweetness, bouquet, and strength, have obtained for them a considerable degree of public estimation.

Tue vineyards also toward the south and southwest afford unexceptional wines. Natura, however, has not provided in every part of this wine-country a soil so cong wind to the culture of the grape as she has in the Rheingan. There the soil attains its highest perfection for the production of choice wines; there flourish the richest vineyard , which produce the most generous wine, the vines themselves growing generally in stony ground or in the elefts of rocks, On he southerly side of those tracts the sun shines the whole day long; its rays warm he stones to the greatest intensity, and, by he radiation of heat therefrom, the graps s ripeped by the solar influence to an equal perfection with those which are fully exposed to the direct blaze of the sunbeams. \ high drgree of vinous essence is consemently developed in these grapes-an e'ement which would be sought for in vain is any other part of the Rhine. The fact is announced to you from a distance by the smell of the air, which is impregnated with the sweetness and spicy odors arising from the vineyards. Besides the districts above enumerated, whose vintages take the preeminence of all others in the Rheingau, there are many other places which, in a greater or less degree, are suited to the growing of vines of various varieties.

All the wine districts on the Rheingau. with the exception of the Burgandy vines, from Asmanuhausen, produce only white wines. Opposite the Rheingau, on the left bank of the river, red wines are produced also, as at Ingelheim and Lerch, near Mayence, and several other places. latter place, like the Asmannhausen, in the Rheingau, affords Burgundies of superior strength and piquancy. but never excels in sweetness or purity. The finest Rhine wine comes indubitably from the mountainous regions of Rudesheim and Hinterhaus, The variety of grape cultivated in these mountain sites is called the Orleans or Harthengst; these differ from all the native grapes of the Rhine. They are very large in size and exceedingly aromatic, and in favorable seasons they become extremely sweet. This accounts amply for the fact that, in the year 1822, four thousand Rhenish florins were paid for one pipe (about 280 gallons) of Rudesheimer wineabout \$14 28 per gallon. In the year 1815 1200 such pipes were raised in Rudesheim, and 1400 pipes in the year 1819. This wine is appreciated for its strength and pleasant flavor. It differs from the mountain wines made from the Orleans grape, of which the average yearly product is fully 150 pipes. The Oberfelder and Kiesling grape also produce from 400 to 500 pipes, and Hinterhaus yields annually from 10 to 12 pipes. In the year 1809, the price of a pipe of these wives was 3,000 Rhenish florins in Rudesheim; in 1800, 1800 florius; in 1804, 750 to 900 florins.

Almost equally esteemed are, first, the wines of Steinberg and Johannist erg; next,

'ourth'y, those of Markobrunn and Grafenberg, near Kiederick. All these wines are produced from a grape called the Riesling. This grape is inferior to none in benquet, fineness and sweetn ss. that pipe of the Steinberg vintage was, in the year 1822, sold for the sum of 5,000 floring (\$7 14 the gallon). The vineyard belongs to the estate of the Duke of Nassau. All these wines have, as we mentioned before, obtained, for their remarkable spicinesand odor, their exquisite flavor and piquancy, an especial public preference, so that the wine-growers will readily make an out lay of thousands of dollars in a vineyard of this description.

The best fruit for the production of this wine is grown in the upper regions of the mountains, where it is protected by the chatenn. The next in quality of this wind us produced from the grapes cultivated in the central parts of the mountain heights The most inferior kinds are produced from vineyards at their base. The soil consists of slate,

During the process of the vinous fermentation, the bung-hole of the cask is covered with a patch of paper, upon which is placed a brick. After the fermentation has ceased, the barrel is replenished, and a bung with a valve is put on, so that, in case of a second fermentation occurring, the carbonic seid gas evolved by that process can readily egenne

During the first year the wine is drawn off three times; in the course of the second year once or twice, so as to clarify it sufficiently; and it is only after a period of four or five years that the wine becomes sufficiently ripened for the final operation of bottling off, after which it can be kept for a period of twenty-five years or even To prevent any sediment, the wine has, in the first place, to be cleared. When the wine is drawn off, it is pumped into troughs, which conduct the stream till it flows into the hung-hole of the cask, by which process the whole volume of wine becomes more thoroughly mixed,

Here the wine is never carried in buckets. or poured from them into the barrels, because, by exposure to the atmosphere, wines made from the juice of rotten grapes would be turned into a brown color, which discoloration, although it will partially disappear in time, yet the body of the wine itself will, notwithstanding, be always of a darker tint than usual.

During the first, second, and third years the valve-bungs are affixed to the wine barrels. These are shaped like an ordinary bung, but they have a small perforation through the center, which is closed up by the insertion of a cork, adjusted by a steel spring, which apparatus affords a free escape for any evolution of gas.

On the 17th, 18th, 19th and 20th days of October, 1831, the work of picking the grapes began, continuing from noon until 4 P.M. On the southerly sites, where the grapes had become rotten ripe, the gathering of the balance was commenced on the 27th, 28th, 29th and 30th of the same mouth, and was continued until the 5th of the following November, when the picking was finished. On the 27th and 28th the two best vineyards were selected, and their choice fruit picked separate and kept apart from the rest. This work, although slow in being performed, paid for itself well; for, after fermentation, the must remained as thick as Malaga, and before the processes of making the wins were completed, it sold for no less than 10,000 guilders the pipe, or \$11.28 the gallon.

The Cass I vineyard contains 63 morgens the annual produce of which is 25 pipes each pipe contains 1500 bottles, worth 24, 000 florins. In the year 1818 they raised 17, and in 1819, 52 pipes of wine,

This wine contains a large perpertion of quirit, and is very palatable. It ranks in quality with the best wines extant. It is made from the Riesling grape. Thesa grapes are left to ripen thoroughly, and not until the wine is a year old, is it drawn

The following years have produced good vintages: 1794, 1802, 1804, 1811 and 1822 In 1819 the price per bottle of first class wine was four florins, of second class three, and of third class one and a half. At Hockheim (one hour's ride from Mayence) the grow on an elevated table-land, which verges toward the main, and covers an area of 1200 morgeus. Its site is exposed fully to the suu, but has little protection from the north winds; and it is, therefore, to the vicinity of the river that this wine owes its excellence.

The price of one morgen (a little over half an acre) of vineyard near Mayence is 2000 florins; toward the center of the heights, 1000; and on the tops, 500 florins The most preferable locality lies in the direction of the Dechanci, and the choices! spot there, is what is called the "Church Piece." It lies contignous to the church itself, which probably shelters it from the northerly winds on one side, and rediates the light and heat of the south rly sun on

In good seasons a barrel of Rhenish wine realizes the sum of 5000 florius.

Here the owners of extensive vineyards pick their grapes as soon as they begin to ret and the gathering of such clusters as are not found in this condition is deferred to a later period, till it arrives. The herry must be of a light-brown color and opaque, not green and transparent: the kernels brown and not white; the fruit itself of a sunburnt and sweet taste to the palate; the vine-stem must be in a dry and sapless

The entire launches of the Riesland grape are deposited in a treading-tank. and are crushed by the feet of the laborers. By this operation the bouquet (which originates from the part of the inner side of the husk) will be easier extracted, and the wine unch more flavored; still more so if the must thus gained remains undisturbed for twenty-four hours. After this interval, the husks are thrown into the ordinary wine-press. The fermenting pro cess is carried on in the barrel, the bunghole of which is covered either with a vine leaf or an inverted bung. The bungs used for this purpose are eight or nine inches long, which are plunged to half their length in the wine. By this means the bungs are constantly soaked by the wine, which causes them to swell and fit better to the vent of the barrels.

In Eelfeld, the largest town in the Rheingau, situated close upon the River Rhine, the vintagers pick the rotting grapes first.

The crushing of the berry is seldom per formed by the wine-mill, but, for the mospart, is done in the tread-tub, as the bouquet is by that means more readily extractd. The press is generally used, however immediately after the treading by the foot, when the fruit is very ripe; but in less ripe grapes an interval of twenty-four hours is suffered to clapse before the mechanical suffered to clapse before the mechanical with cold water. The water will absorb duct is used in large quantit pressing operation is performed. The ferther carbonic acid gas, so deleterious to ports, sherries, angelica, etc.

mentation is carried on in separate barrels which are hermetically scaled by water It is not considered that the wine itself it benefited by this mode of treatment, but it is adopted rather for the sake of security to the work-people, as it prevents the seape of the earbonic acid gas into the vanits where they are employed.

Steinberg-a quarter of an hopr from the convent of Eberbach-produces, by its skillful management, an excellent kind of wine. It yielded in the year 1819 eighty four pipes. Here the grapes are gathered as late in the scason as possible, and they are never cleared off from the vines at once, but in two or three different pickings, as they become fit for use. The work is done here two or three weeks later than in the Rheingau, and care taken, never to gather the fruit while there is any dew on it. Here also the grapes are crushed by the feet, and the grinding-mills are no more in use. In a season of failure, the fruit is put through the press as soon as it is brought in from the field; but in good seasons it lies for twelve or eighteen hours before it is pressed, so that the saccharine matter may become fully developed. Separating the berries from the stems, which was formerly done, is now dispensed with, as of no account and expensive; for the stems at so late a vintage are too dry to impair the quality of the wine.

The red wines of Asmanuhausen, in the Rheingau, are also of a very valuable description. In strength they excel all others made on the Rhine, not excepting even Burgundy itself. They possess a peculiar spiciness which is rarely met with. The narrow limits of this tract, however, permit the cultivation of but few vineyards.

The preparation of the wine, as practiced in the Duke's cellars at Rudeshiem, is as follows: The grapes are pounded together with a must-club, and then conveyed to Rudesheim; there they are thrown co masse into a square trough with a flat bottom of wire gauze, underneath which is another vessel into which the berries are swept with a stiff besom, passing through the wire sieve, and falling into the vesse beneath. After this operation, they are mashed together with wooden pounders until the whole is pounded into a pulpy mass.

The fermenting of red wines is conducted thus: Tubs are placed verticalty, in which a faucet is inserted at the lower edge; over this hole a perforated little board or tin is nailed, to prevent the husks from entering the faucet and obstructing the passage of the wine. Thus the wine will run freely through the faucet without being clogged up by the pulp of the grapes. Into these tubs, thus fitted up, the conglomerated mass of mashed grapes is put so far as to fill them up to within a quarter part of the top. Then a cover, perforated with small holes, is fastened with some three or four props over the mass, so that, when the sume commences to ferment, and couse quently rises, nothing but the carbonic acid gas and the fluid part of the mass can penetrate through those small holes, of which the former two will virtually prevent the atmospheric air from mixing with and souring the husks, which, on their the wine. After the above precaution is taken, a well-fitting cover is inserted and luted air-tight. Into this cover a curved tin or glass pipe is inserted, the upper ead of which is put into a small vessel filled

human life; but the water, becoming saturated with the gas, must be renewed daily. Thus the whole is left until the fermentaion is complete, which commonly will take place within three weeks. After this he fluid part is decanted through the fauet; the cover, together with the perforated board, is removed, and the husks properly pressed, each kind of the juices being alled by itself into barrels; the former making a wine of the first quality, while the press wine is of an inferior grade. Red wines are generally drawn off in the March following the vintage, and sold in four or six weeks after. What stock remains on hand is drawn off again in the following October.

It is to be remarked that, by an excellent arrangement, the must wine can be conveyed by hollow tubes directly from the press house to each cask in the cellar. The method above described, is the best that can be adopted for the making of red wine. All other modes are attended with the disadvantage of a too long exposure of the must to the open air, which gives it an acidity. The above process totally obviates such a tendency, as all contact with the atmosphere is excluded by the water. The red wines of lugelheim, though lighter in quality, nevertheless keep better than those of Asmanuhausen. They raise a good deal of wine here-one ohm fetches from five to six carolins, whereas the genuine Asmanuhansen costs at least ten carolina,

#### THE VINTAGE.

A circular has just been issued by the Viticultural Commission suggesting a plan to increase the price of wine grapes by with-holding a part of the crop from sale for wine-making and depositing of the rest for other purposes. The circular concludes as follows:

To the producer of grapes there comes no penalty with the proposed plan, for at the low prices now promised for grapes, there is little difficulty in disposing of the nosold helf-crop by other means, amore which are the following: (1) drying, (2) distilling, (3) vinegar-making, (1) selling fresh to local markets, (5) boiling into cheap syrup for domestic use or sale.

By proper management dried grapes will net \$20 a ton, and the demand is growing. For distilling, \$7 to \$10 can be realized, which prices, when prices from the other half are considered, would make the growers come out about even. Spoiled white wine, sold for vinegar last year at 14 cents a gallon, and more was desired than could be had. Nearly all red grapes may be used for wine vinegar if pressed without fermenting, and a white wine obtained, the only kind desired for vinegar. This wil bring the grower \$12 a ton. Where known to be pure, wine vinegar, at retail, brings from 25 to 50 cents a gallon. Local markets will take large quantities, if properly managed. Fresh grapes, shipped in bulk to San Francisco or largo towns, have usually realized satisfactory prices. There is a large demand for grapes in bulk from Italians of San Francisco, who make from them a cheap wine. More fresh grapes will be used if offered at part, would communicate this sourness to growers prices. A healthful syrup may be obtained by boiling the juice or must of grapes. Many years ago when grapes were low, growers found an important outlet by this means. The syrup was sold for domestic use in jars and kegs This product is used in large quantities to sweeten



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### FOR SALE. A Wine Press

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#### ALCOHOL.

Among the curions side issues of the current tempereance discussion, says Professor Atwater in the Century, is the question whether alcohol is a natural product. This is, I believe, vigorously denied in some quarters. Alcohol, like bread, is manufactured artificially from a natural product. In each case fermentation, a natural process, is made use of. But while bread is known only as a product of manufacture, alcohol appears to be very widely distributed in nature, though in extremely minute quantities. Nor is this at all surprising. If grapes or apples, or their juice, be exposed to the air, fermentation sets in, and the sugar and other carbohydrates are changed to atcohol. The ferments which cause the change, are afloat in the sir all about, and might not unnaturelly attract similar compounds in other vegetable substances. Professor Muntz, of the National Agronomie Institute, in Paris, has, by refined chemical tests, discovered evidences of alcohol in cultivated soils, in rein water, in sea and river water, and in the atmosphere. He finds that vegetable moulds may contain considerable quantities, and it appears probable that the alcohol "originates in the soil, from the fermentation of the organic matters in it, and is thence diffosed as vapor in the atmosphere." Another side issue of our temperance discussion is the so-called "Bible wine" theory, which maintains that the wine used in Palestine in the time of Christ, was not alcoholic. I have been unable to find evidence that the composition of the juice of the grape, the laws of fermentation, or the practice in the making and using of wine were different in that country at that time from those in other countries, or in that country at other times; and believe it safe to say that the theory that Bible wine was different from other wine, that it had not the alcohol which other wines contain, is without any basis to support it, in the opinion of the student of science.

THE TROCBLES between graps growers and wine merchant are culminating in a latest reports from foreign vineyards: determination upon the part of the former that no longer will a condition of affairs tantamount to beggary be tolerated in sacraficing the producer in an interminable contest over who can set! California wines the chenpest. It is on this point that the whole question hinges. A constant war over prices has been going on for years among a certain class of dealers, with the result that to-day our wines are selling at a rate, simply ruinous to all concerned in the

The talk about boycotting is all humbig and only amounts to an agreement entered into between a few of the wine sellers to refrain from purchasing from the independentgrower who is selling his wine on this market. It is not a general combination against the producer. The low prices to which the market has been forced has in itself competled the wine man to huy where he can find the cheapest offer. The consequence is that the unfortunate producer is forced into a corner, and the desier is doing a business which must eventually end in ruining himself, as he is the reputation of our wines.

The matter has now come to a point, where the grower is forced in his own protection to take some decided action. The movement has commenced in the various wine growing districts, and it will be kept up until the market price of wines is forced, by a short supply, up to the higher figures it should command from a standard of excellence, and to a rate which means a profit for the producer.

This is as it should be. Our wines are not such a drug on the market at home and abroad as to warrant the absurd pricesas low at times as mine cents per gellonat which they have lately sold. The demand is growing in the Eastern States and abroad at a rate which should make the comparatively small supply worth fully fifty cents per gallon. The wine men should remember that in depreciating the value of their goods, they are not only injuring the grape grower but also their own business. Competition in the trade earried to extremes is the sola cause of the trouble and nnless some steps are taken to ameliorate the unsatisfactory condition of the business the principal sufferers-the grape growersmay be depended upon to right it for themselves

The vineyards of California are now in too flourishing a condition to be easily wrecked. The profits of the owners may be curtailed for a time, but the avenues now opened into which the product can eventualy be turned to good advantage, are too numerous to cause much anxiety as to the fauture outcome.

Fighting among the two important factors of an industry like that in wines, is an unfortunate effair which would undoubt. edly be ended with much satisfaction to all concerned, on the basis of a mutual agreement to tive and let live.

THE MERCHANT is authorized to state that tha California Winery and Security Company of this city is now ready to receive wines on storage to the capacity of three million gallons. Storage room in the company's warehouses has been secured in advance for over one million gallons, and there is every possibility that the entire capacity will be employed during the com-

Bonfort's Circular contains the following

Vines are in a fine condition in Portugal; the blossoming has taken place in a satisfactory manner, a fine sunshina hastening the transformation from flower to grape; if therefore thunderstorms and half spare the wine regions and the rains do not come down too heavily, we may look forward to abundance coupled with fine quality, if not thwarted by the phylloxera,(still making headway) the anthracnosis and pyralis.

In Bordeaux, up to the close of June, vintage prospects looked bright, but rainy weather begins to cause some uneasiness. If it does not stop soon there will be a wide spread dropping of diminutive grapes. In the mountains it is feared the rains may seriously curtail the yield. In the Miner vais, not only the grafted but quite as much of the older vines are doing well, promising abundance. The mildew is complained of in a tew localities about Cette, the warm, damp weather favoring the dis-

In Rhenesh Hesse, the vines still promise great abundance. From Rheingau comes similar reports, also from Harardt Mountain district, where the vines, it is said, could not well look better than they do.

In Hungary, the young grapes have made rapid headway and it appears pretty certain that there will be a good average yield. The viutage is a fortnight shead of last year's.

The eoming vintage in Spain promises great abundance, in a good many localities the yield will be nnusslly larg . Some instances of disease are neted, but not sufficient to damage the prospects.

Advices about the Italian wine crop are decidedly favorable, with some slight exceptions such as Tuscany, Piedmont and Venice.

The viutage outlook in Algeria is, on the whole, most setisfactory.

THE FOLLOWING reports are given from the vine growing districts of the north and southern states:

Some mildew of berry and stem is reported in several vineyards on Lake Keuka. It is not regarded as serious, as the weather for some time past has been dry and cool, which is favorable to the healthy condition of the grape. Reports from the Hadson are favorable, and it is believed the fruit is as far advanced as at the same time last year. All through Western New York, if no unlooked for calamity overtakes them between now and vintage time, the yield and quality of the grapes will be excellent, probably better than an average.

In the vicinity of Greenville, S. C. grape growers have suffered considerable loss during this unseasonable year, but the crops is by no means a complete failure.

In the Piedmont and Albemaria districts of Virginia, there is an excellent prospect for a splendid crop of grapes. There is almost no mildew or rot up to

THE OFFEB ON the part of the Southern Pacific Company through General Manager Towne, to pass boys and girls desiring employment in the County, during the fruit packing season, over its lines at half fare rates, is exceedingly liberal and should sid materially in removing the serious obstacle to the vine growing industry, experienced through a scarcity of labor, when gathering the crop. The Board of Trade and its subordinate branches, has the matter under control.

#### HARASZTHY HONORED.

#### A Grand Banquet tendere I the retiring President of the Viticuliural Commission.

A complimentary dinner was tendered to Arpsd Haraszthy, the ex-president of the Viticultural Commission, in Pioneer Hall, ast evening, by a number of the winegrowers of the State and the guest's personal friends. The lower half of the building was handsomely and appropriately decorated for the occasion. The columns were wreathed in vina branches and garlands of the grape bush were hung about the hall. About 100 gentlemen sat at the tables, arranged in horse-shoe form, which glittered with silverware and colored glasses and which were redolent with the perfumo of fresh-cut flowers. Large fruit epergues stacked high with grapes of all kinds, were a feature of the table decoration, and were mate but potent indications of the nature of the feast and business of the feasters,

Promptly at 8 o'clock the gnests assenhled in the reception room of the building and half un hour latter adjourned to the banquet hall. Arpad Haraszthy occupied the post of houor, with Charles A. Wetmore on his right and Ira G Hoitt on his left. Alt present went to work at the busi oess of the evening with a wilt and an excellent repast was provided. The mena, printed on neatly designed cards, was elaborate and the wines included all kinds of old California vintages, dating back to 1877.

About 10:30 o'clock the speeches commenced, Charles A. Wetmore opening with a toast to the guest of the evening. Mr. Haraszthy responded in a feeling speech, and was followed by M. M. Estee, Frank Pixley and others.

Among those present were: Arpad Haraszthy, M. M. Estee, Charles Bundschu, Marcus D. Boruck, E. H. Rixford, Judge McFarland, Bozo Radovich, W. E. Brown, F. A. Haber, Consul Bee, Charles A. Welmore, 1. de Tark, George West, W. S. Manlove, J. H. Wheeler, Colonel Andrews, Frank Marphy, Ira G. Hoitt, R. J. Harrison, J. L. Heald, H. A. Mariam, H. W. McIntyre, Joseph Napthely, Byron Jackson, N. Wyckoff, C. N. Fox, George Sanderson, Dr. W. B. May, Frank Pixtey, H. W. Crabb, Charles Krog, W. Scheffler, T. F. Harley, Chartes J. King, Luman Wadham, E. J. Muslin, H. M. Lyrue, Frederick Pohndorf, George West, Frank M. West, Albert Lachiusn, Dr. Frasier, J. B. J. Portal, Louis Lenzberger, J. Enler, W. Weglein, Charles Kohler. P. Canessa, W. M. Bramhall, Donald Bruce, Harace Davis, J. P. Irish, W. B. Ewer, M. Lafrey, C. Buckley, J. F. Gawthorne, Arthur Still, C. J. King, A. Graver, Dr. John Hastings, Dr. R. A. McLean, B. Dreyfus, J. Landsberger, N. E. Rose, A. C. Bassett, J. P. Smith, George A. Fisher, W. H. Worth, Clarence J. Wetmore, Charles F. Lutgen, T. C. Van Nass, J. L. Beard, G. W. Langan, W. H. Whiteley, J. M. Curtis, Michael Flood P. Kleine, F. Korbel, A. M. Ebbetts, J. Charles de St. Hubert, Alexander Mertin, Edward Kruse, J. W. Jarvis, Henry Casanova and J. Caire.

California shippers to Eastern markets, will on and after August 10, get through Eastern rates from any railroad station in the State, the same as from San Francisco and other places hither is known as ter-minal points. In the matter of rates, that In the matter of rates, of \$1.40 in raisins and dried fruits, while in some respects equivalent to a reduction, is higher than those of previous seasons.

numbering over 600, invaded Livermore Valley during the late encampment on the Coast, and were most hospitably entertained by the wine growers of that prosper one region. The heaviest work of the day took place under the over-spreading foliage, on the grounds of John H. Wheeler, at Mocha station, when an attack was opened on a mammoth lunch table, fairly viands, flanked with wines of various kinds, every bottle of which had earned a prize in competition with the products of the state at larg , during the recent State Viticultural Convention. The onslaught was very effective, and little was left of the enemy to tell the tale,

The delicate flavor of this celebrated vintage was sampled, and fally appreciated by the visitors, many of whom could not be tempted on other occasions, to even feast their eyes upon the amber or ruby colored nectar of our California vin yards. Music enlivened the scene around the festive board, which was rendered if anything more attractive by the fine ornamental display of large branches of fig. olive and almoud trees loaded with fruit from the orchards of Chas. A. Wetmore. After spending an agreeable afternoon in reviewing the many attractive features of the valley, the insurgents departed on their way rejoicing, with hearly cheers for their kindly entertainers,

#### ELECTRIFICATION OF WINES.

Mr. Flavio Mengarini, a well-known epologist of Italy, stated in a technical publication the results of his continued application of electricity on wines. Other scientists and wine men in Italy confirm the conclusions at which last year Mr. Mengarini had arrived upon his experiments in that direction, namely, that by proper action of the electric current the organic substances in suspension in wine are rapidly deposited and to a degree also part of the albuminoids contained in the wine: further, that the electric current causes a slight loss of alcohol, and that the action of the current renders the wine mere resistant against putrefaction. Thus the electric action exerts an autiseptic influence, and in a shorter time than by the natural cellar treatment brings about the results of age in a wine.

While a moderate electrification would perhaps aid the expression of the perfume of a good wine, overstepping the mark io acting upon it would render its flavor nanscons.

The procedure of Mr. Mengarini is the following, as described by his own pen:

The pipes of wine to be acted upon are placed one alongside the other to the number which is thought sufficient for the intensity of the current at hand. The cork brings have to be provided with two perforations, vertical and as distant from each other as possible. Next the platina plates are to be prepared, to each attaching a platina wire Iwenty centimet rs long, pass ing through a little glass tube, annealed at the extremity nesrest to the plate, so that the wire and plate be sustained only by the glass. The size of the plates should vary according to the quantity of wine. In casks of 132 to 158 gallons they may be 20 to 40 centimeters in length and 6 or 8 broad. Mr. Mengarioi's trials were made with plates 20 centimeters long and 214 broad for casks of 10 to 13 gallons. Pass the wires in each of the two holes in the into the United States as French brandy.

A SMALL detachment of the N. E. A. bung and turn notil the two pintes hang so that they be parallel. They should be immersed well in the wine, but not touch 67 failures in the Pacific Coast States and the bottom of the cask, to allow the gas- Territories for the month of July, just bubbles to pass freely to the enter the lower the palates hang, the stronger the effect on the wine.

The two platina threads then are fixed to the threads in the n xt cask with a common copper wire, and so on, connecting anoth r groating beneath a weight of tempting free thread with the battery, closing at last the circuit, upon which action can begin. Prolonged action of not very strong cur rents is the most efficacions procedure. After each operation take samples best through a third hole in the cork bung by a pipette, and examine off of in order to stop or continue. Move or beat the sample to order to try the flavor.

> easy one and worthy to be populariz d, as it seems established that other processes of ageing a wine are either more tedious or costly, and that especially for ordinary wines the advantage of rendering them by electrification more proper for transportation it is a cheap way of advancing them, rendering alcoholization unnecessary.

Practice will show if the expectations of Mr. Mengarini are justified, anyhow ceneand public spiritedness.

SINCE last reports to the Viticultural Commission a material shrinkage has taken sent that paper. This is, we believ the first place within the last two weeks. Hot, dry attempt of any m tropolitan daily to eninterior counties, the thermometer standing at 85° during the night and 110° in the day time, with a light northerly wind all the time. This has worked great injury to the vines, in the raisin grape districts of Placer county, through all the northern counties, up to the Vina Ranch in Telama county. The Livermore valley crops is considerably reduced, through a more than ordinarly severe incursion of the grape vine hopper, This pest is also reported working havee in many of the Fresno vineyards, but in face of this, information comes to hand of e good prospective crop. Here the proposition is to dry the grap s and nothing is said in connexion with wine making. far no sales have been made of the incoming crop. A few are reported under negotiation, conditional on centain prices being paid, with the benefit of market rates, should an advance take place in the menu-

Congress Has wisely decided to enter upon extended and costly experiments in the manufacture of sorghum sugar. To avoid this, the President must decide to veto the whole of the agricultural bill, which includes an appropriation of \$100,000 for sarghum. This will be of great benefit to Kausas and other Western men who have for years been handicapped by the peculi arly antagnistic position taken on the subject by many of the scientific gentlemen to whom was deputed the business of making experimentary tests. It is now to be hoped that the financial assistance rendered by the government will be applied to the purpose for which it is rendered, by the selection of more practical and reliable men to carry on the work of o covery.

THE ANNUAL local consumption of brandy in France is 12,000,600 gallons, and the yearly product only 13,000,000 gallous This speaks well for the article imported San Francisco, Cal, Angust 1, 1888.

The Bradstreet M remtile Agency reports clos d, with assets \$130,062 and liabilities will be compiled to go in with Russia cre 185,000. As compared with the pr vious long in a struggle more terrible than all bemonth with ass ts \$35,700 and liabiliti s \$93,616, and 71 for the ear spouding mouth of 1887 with ass ts \$120,654 and habilitie 4 \$286, 187.

The failures for the past month are divided among the Stat's and Territories as follows:

STATE	N11,	ANTETS.	LIARILTIES.
California .	(i) h	815,600	372,200
Oregin	. 6	15,162	57, [+0]
Wash naton Ter	54	24,500	35- 1101
Arizona	- 3	3,590	5,5181
	67	\$120,062	000,673

Some intenesting particulars of grape Mr. Mengarini considers the process an drying in the diff rent districts of California will be found in the columns of this issue of the Meachant. The instructions and suggestions from Chief Executive Officer Wheeler to the inspectors of the State Board of Viticultural Commissioners, and grape gio vers gen rally, on the first page, are point d and practical.

THE New York Daily Graphic has started a new f ature, "Our Poet's Corner," and, logy is indebted to him for his researches as the Graphic announces," the department is expressly designed for the profit and celebration of our poetic contributers," in which it is intended to publish all the verses weather has prevailed all through the courage the development of American postical genins and will certainly " fill a long felt want" as well as increasing the already exceedingly great popularity of the tre p'ic

Here is an opportunity for our local posts to become celebrated by s. ndiuz their effusions writen on one side of the sheet to th. Poetry Editor of the Graphic, N.w York.

#### PHYLLOXERA.

A California Associated dispatch says: George W. Roosevelt, Consul at Bordeaux, has reported to the State Department upon the treatment of diseases of vines in France He says that the uctual area of destroyed vines by phylloxera is 1,200,000 hectores, or about one-half of the vineyards of France, A few years ago the French Government off red a prize of 300,000 france to the inventor of a remedy for the plague, but while various attempts to prevent the disease has been made, no radical cure have been discover d. Consul Roose velt estimates that so far, France has lost 7.200 000 000 francs by the destruction of her vineyards by phylloxera. Among the remedies that have thus far been applied to vineyards with varying degrees of success, are sulphur, salts of copper, lime and sulphur, sulphate of iron, and removing and burning diseased roots and leaves.

#### THE COST OF TARIOUS WARS

The tollowing statistics are of Formh origin, and pointed. Under Napoleon III the Crimean war cost I rance 200,000 men and 2 milliards of money, England 23,000 men and 5 milliards of money, Predmont. 2,600 men and 175,000 000 francs of money Russia, 6,000,000 men and 1 milliards of money; Turkey, 36,000 men and 400,000-000. In 1858 the Italian war cost Franc-70,000 men and I milliard of money, Italy, 60,000 men and 150,000,000, Austria, 120, 000 men and \$75,000,000 In the Mexican war France spent 500,000,000 money and 70,000 men. The Syrian expedition cost vinegar.

15,000 men and 125,000,000 money. In tha France-German war France lost 225,000 men and 9,255,000,000 money. And now France is bristling with Boulangism and fore it. The estimate is that France and Russia together can jut in the field 9,500, 000 of men, while ti-rmany, Austria and Italy can meet them with as many more. Think of 20,000 000 men eager for each others' lives on European battle plainswhat has been the gain of it all .- Globe

#### AN ENEMY OF THE OLIVE.

The Gilroy Guzette notes that a destructive pest to the olive is likely to make its appearance this and during next month. It is a specie of the fly with hard-shell wings (genus authomy it . Its depredations are made by boring in the very heart of the tree thus sapping and chicking the vitality of it. Spraying the tree with a mixture of concentrated lye in proportion of three ponuds to fifty gallons of water, in which has been dissolved one and one-half onnes of blue stone, will kill off the insect without doing damage to the tree or fruit. S. W. Kilpatrick has kindly furnished us this information. In reference to the use of arsenical remedies to kill the insects. Mr. Kilpatrick thinks they should be very sparingly if ever used, for the reason that the poison might possibly be retained upon the fruit and make its consumption dangerous and unhealthy.

#### CALIFORNIA WINE FOR MEXICO.

A press telegram from El Paso, of July 13, says: Parties in El Paso who are intimately acquaint d with the Mexican wine trade are on the point of inangurating a new enterprise, which presents every prospect of success. There is getting to be an active demand for California clarets along the line of country traversed by the Mexican Central and its branches. French clarel has heretofore been extensively patronized, but it is fast falling into disfavor owing to the fact that nearly all is heavily adulterated. The projet is to transport the elsret in bulk direct from California vineyards in tank cars to the principal Mexican markets, and let it there go through the final fermenting and refining processes. The first experiment will probably be made in the city of Guadalajara. The wine is to be stored and sold in pottery ware, which at that place is of excellent quality and very cheap, while glass wars of all kinds is very expensive through. out the republic. J. M. Holderness, a noted wins reporter of El Paso, is endeavoring to get the new enterprise startep

#### AN IMPORTANT LAW

A new law will go into effect in Germany October 1, 1985, regarding canned goods and other food packages using had or un. This law prescribes that the cans must not be prepared beither entirely nor partially of lead, nor of an alloy of metal which contains in 100 parts of weight more than 10 parts of weight lead. The cans must not be tinned on the interior side by an alloy of metal which cootains in 100 parts of weight more than ten parts of weight lead. The caus must not be inrnished with coameled or glazing, which after having been a half hour in vinegar (this atter contains in 100 parts of weight 1 parts of vinegar acid), then deliver lead to the

#### RECLAIMING THE DESERTS.

The agricultural experiments which have been prosecuted for some time, far down on the Colorado Desert,' furnish interesting matter bearing in the future value of these lands. Some one recently made the prediction that the deserts would finally be crowded out of California-that in time they would all be redeemed by tillage. That will depend upon the accessibility of water. It can generally be brought to the surface by boring a few hundred feet. When water can be procured, the two conditions of heat and moisture will insure abundant crops. The surface of most of this desert land is composed largely of comminuted shells. It is therefore rich in the elements needed for the production of fruits and vegetables. The earliest experiments with water on the desert, were made at the railway stations. The drippings of the first water transported there by rail produced remarkable vegetable growths. At Indio wells were bored for the supply of the station. The station agent found that he could produce the carliest fruits and vegetables by the use of water. Grapes would ripen in June, and figs at about the same time. Malons would mature nearly two months carlier. Three crops of grapes were taken off the same vine last year Water has now been obtained at a number of other places on the desert. The theory is that it can always he found by boring deep enough. The reclamation is, of course, attended with considerable cost. But when once a well, or a number of them, have been successfully put down, the experiment is carried to the point of anecess.

A. N. Towne, General Manager of the Southern Pacific railroad, and a number of other citizens, have taken great interest in the agricultural experiments. A small box containing samples of fruit grown in the station yard at Indio, contains a cluster of mascat grapes, the berries all large and well matured, two clusters of mission grapes perfectly ripe and of good size, together with a number of ripe figs. All these fruits were of good flavor, and presumably, were well matured by the last days of June. On account of the great heat and the absence of frost in the early part of the acason, it has been as good as demonstrated that fruits and vegetables can be matered in advance of most other parts of the state. The ripe and luscions fruits grown and matored on this desert in early summer, are a successful experiment, indicating a great future for these waste lands. The new developments may be slow, with a variable cost of reclamation. There are now several wells on the desert, which bring water to the surface. These will be gradually increased. Wherever one of them if successful, a number of fertile and very productive acres will be the result. The capital and enterprise which turn barren sands into a garden spot, are never imployed amiss.

Another experiment which may one day be successful, will be the cultivation of the date palm. The tree is a habitant of the desert from the Arabian Gulf to India. It flourishes in a rainless country and strikes its roots wherever the moisture is near tha surface. Thus, where the date palm is seen, though there may be no spring in sight, travelers regard it as a sure indication that water is not far below the surface. It requires great heat to mature dates. A few mature every year in this state. But these are mostly grown on upland, or upon some places water can be procured in abun- 'layered.''

true home of the date palm is on the desert, it has never covered all the sandy waste. But where the wild palm is found, it is a fair inference that the date palm will flourish, if water comes near enough to the surface. An adalogous fact is found in the wild grape vines growing in great abundance in the northern part of Californin. These wild vines, festooned upon trees along water courses, are accepted as evidence, now further confirmed by cultivation, that all the conditions are favorable for the culture of the grape. These wild vines have also been used as resistant stocks on which to graft less resistant varieties. On both the Colorado and Mojave Deserts there are giant cacti. Here and there are found inferior native palms, having, of course, no close relation to the date palm of commerce, but conveying, at least, a bint that where one species of palm will grow wild, it is probable that other and botter varieties will grow if attention is given to their cultivation.

The latest authorities confirm this view. and warrant even a more sanguine expectation. One of the most satisfactory articles on the habitats of the date palm appeared in the Cornhill Magazine and has since been republished in the Eclectic Magazine It is there shown that the date palm grows at present almost exclusively in the great desert zone of the Eastern Hemisphere, That zone begins in Sahara, crosses the Nile and Red Sca, is continued across Arabia to the Persian Gulf, and thence into the Indian Desert, and indefinitely, into the sandy wastes of Gobi. Its western limit is Senegal, its eastern the Indas This vast sandy waste, designated by several names, is the true home of the date palm. It is cultivated to some extent Isewhere, as in Portugal, in the southern parts of Spain and Italy, and specimen trees are found in the vicinity of Nice. But the dates of commerce come from the desert regions first described. The fruit comes to the greatest perfection when there is a combination of these conditions, viz: Desert, drought above, and irrigating springs or streams below. The authority quoted affirms that an acre of land devoted to the date palm, will produce more food than any other known crop except the plantain. Each date palm in full bearing wilt produce from eight to ten bunches, the total weight varying from one hundred to four hundred to four hundred pounds. As the fruit does not ripen in the northern part of Italy, nor in France, it is inferred that it would not do much better in middle and northern California.

But as to the great Colorado and Mojave Deserts, what might be done there? The grape, orange, fig and apricot can be brought to perfect maturity there. So much has been ascertained from the experiments already made. These are of value beyond the samples occasionally brought to public notice, b: cause they suggest future great possibilities. A few years ago these deserts were set down as atterly worthless. They include an area large enough for a respectable state. Now it is demonstrated that the land is not worthless wherever water can he applied to the surface. But in all such instances it is found to have very great productive capacity. It is not clearly demonstrated as yet that water can be brought on to the whole of these sandy wastes. The experiments thus far hardly go further than to show that in

soil not classified as desert. While the dance at a moderate depth. Perhaps these deserts in time will be dotted all over with oases which will finally touch each other, on which the most conspicuous feature will be the date palm as prolific as it is now on the Arabian desert. Who knows? We shall only find out by future experiments, stimulated by the same enterprise that has already produced the grape, the fig and orange in the desert .- Ex.

#### PROPAGATION BY LAYERING PROCESS

Much has been said and written, of late. in regard to propagating grapevines by what is termed the "Layering Process, and under some circumstances to a limited extent, it may be a convenient and useful method to put in practice. A writer in the Vineyardist, who evidently speaks from practical experience, says:

The very easiest and quickest method of propagating the grapevine is by "layer-A cane of last year's growth (instead ing of being trimmed) is simply let down to the earth and covered in a trench four or five inches deep and two or three feet long, the tip end being allowed to project above ground. It does not much matter when the work is done, either before the bads break or afterward during the fore part of the growing season, nor how many buds the projecting end may bear; the layer will be certain to root in any case, and it may be separated from the parent vine in the fall. If then found not duly balanced as to root and branch, the proper equilibrium can be easily produced by trimming the The result will usually be a fine young vine, about equal to one from a twoyear-old cutting. Although it is advisable to use a cane of last year's growth, we believe that a branch of any age may be layered with spc.ess. In neglected vineyards we have seen such branches which had taken root where they had only touch ed the ground

By this process, grape growers, who have no propagating facilities, can easily and rapidly fill all vacancies in their vine yards, and thus "even them up" much quicker than by setting roots from cuttings, as the "layerings" can be left to grow for a second year, when they will make great progress, being sustained and pushed by the parent vine, in addition to their own roots. But it should be distinctly understood that this process is valuable only for the purpose of filling in the missing vines from old vineyards, for vines thus propugated cannot be as successfully transplant ed as those from cuttings, as in separating them from the parent vine they die or become weaklings in new situations, the same as if a young animal was taken from its natural sustenance and put at once upon a water diet.

As a general thing, when the vineyard is trimmed, whether in fall, winter or early spring, a cane can be found of sofficient length for "layering" at each vinevancy, and left for that vacancy, to be "trenched" at the proper time; and it may be observed that in cases where there are no canes of sufficient length to reach the vincless atake, no time will be lost in training one for the desired purpose, one season, and "layering" it the next spring, as it may be kept connected with the cane two years, when it will be much further advanced than one from a cutting set a year

#### BEET SÉGAR

All the farmers about Watsonville, who planted the imported sngar-beet seed given them by Claus Spreckels, are watching their crops with great solicitude. The beets are now nearly grown, and the intention is to gather them in the early part of September, and store them in readinesa for milling. Nearly 200 farmers planted the seed in fields of from five to twentyfive acres. Altogether about twenty-five thousand acres in the section are planted in sugar beets. A few weeks ago some of the half-grown beets were brought up hera for examination and unalysis. The result was very satisfactory, and all engaged io the new enterprise feel encouraged and confident that this is but the beginning of a great industry.

The buildings of the Watsonville plant are nearly completed. Engineer Waters. formerly of the California Refinery, has entire charge of the Watsonvilla project, and 200 men are now aiding him to hasten construction and equipment. Mr. Waters accompanied Mr. Spreckels to Europe last year and while there he was able to make a thorough study of heet-sugar manufacture. Dr. Wachiel, a German chemist. who returned with the party from the European prospecting tour, is at Watsonville, doing all he can to assist the best cul-He was engaged in the beettivators. sugar industry in Germany, and his experience is of much value for the farmers. All the machinery brought by Spreckels from Germany is at Watsonville, in readiness to be set up when the buildings are all done. In addition to other structures, sheds that will hold from eight to ten thousand tons of beets have been built. These are for storage purposes only. A side-track to the factory from the Sonthern Pacific line at Watsonville has just been build. The farmers have been promised sale for all the beets they will raise. Further than this Mr Spreckels bas offered cash prizes those farmers whose crops the best average in product, other things being equal, and also to the farmers whose beets show the highest persentage of sugar. Mr. Spreckels expects to be here the last part of the mouth, or the first of next, and he hopes to start the new enterprise in person. He has been very busy East, arranging for the erection of the great sugar refinery in Philadelphia. Some of the machinery for it is now being made in Pittsburg. Fifty steam-engines for use in us many centrifugat refining machines are being constructand the number of these costly machines gives one a fair idea of the elaborate outlay necessary for the great project.

#### ROTTLING WINE

The New York Evening Post reports the curious discovery in France that good old wine is differently effected by bottles of different manufacture. Wine kept in socalled Rouen bottles improve, while other bottles seem to impart the harsh flavor of new wine. The chemist Peligot goes so far as to attribute the changes which wine kept long in bottles undergoes, to the action of the ingredients used in the preparation of the glass. It appears that an undue mixture of lime and magnesia, wnich are often substituted for soda and potash on account of their cheapness, acts injuriously upon the wine. In those bottles in which the wine naturally inproves, the proportion of or two earlier than the case which was time is found not to exceed 18 or 20 per

#### NATIVE WINE SHIPMENTS BY SEA. OUR

#### PER P. M. S. S. CO'S STEAMER ACAPULCO, JULY 30th, 1888

#### TO NEW YORK.

MARNA.	anteres.	PACKAGES AND CONTENTS	GALLONS	SALUK
L L	P. Parny & Co	2 barrels Wine	1117	8101
C	**	15 barrels Wine	731	123-1
C		32 barrels Wine	1,57#	6554
**	14	I barrel Brandy	110	100
**	1.5	25 barre's Wine	1,283	-314
VA CO		5 tarrels Wine	238	1.50
S.E. Nros	**	25 barrels Wine	1,234	411
W.S	. C Sch Hung & Co	Boctaves Wine	16%	123
V Co	11	450 barrels Wine,		2,83
M		2 barrels Wine	5151	ō
Н	Lenorman I Bros	10 barrels Wine	1,555	- 51
D & Co	B Dreylus & Co	100 barrels Wine,		2.50
11	44	18 kegs Wine		17
L& Co	Francii, Berges & Co	10 barrels Wine		Es ma
S	Napa Valley Wine Co	I barrel Wine	Di-	- 5
	43	I half barrel Wine	26	9
Т	. \ Frz	25 harrels Wine	1,256	62
P	Lachman & Jacobi	12 barrels Wine	19,231	21
A	8.6	S barrels Witte	411	29
11		24 larrels Wine		56
+ 5				- 5
A W	Williams, Dimond & Co	2 kegs Wine	20	2
Total anomat of Win	2		24.973	810.75
Total amount of Bran			7.1	15

#### TO CENTRAL AMERICA.

7	de B. Acajutla F Daneri & Co 2 kegs Muscat.	1 1	\$10 20
À	If in oblong, Corneo F Meeks I cask Winc	50	
	" 10 cases Wine	25	25
ĸ	E & Co. Puntas Arenas Gallegos Wine Co 75 cases Wine		1.50
J.	L.J. Coriato	30	100
J	P L, Corinto J W Gray & Co 24 cases Wine		114
	•		
	Total amount of Wine, 99 cases and	115	8519
	Total amount of Wine, 991 cases and	115	8549

#### TO GERMANY-PER GER. BARK DEUTSCHLAND, July, 1888.

F	S. Deide-heim	A Greenbaum & Co	1 barrel Wine	50	8 15
	4.6	**	2 cases Witte		9
- (2	Brein n	J Gundlach & Co	60 Larrels Wine	2,025	1,171
	I' S XOUY	Napa Valley Wine Co	2 borrels Wine	50	50
	F S in r.ng. hitel	1º l'eterson	1 barrel Wine	17	23
	Alden, Bremen	Walden & Co	501 p ckages Brandy	17,691	10.615
	W T. Br men	A Nuctor	1 barrel Wint	50	25
- 63	B. Brenich	M Schurmal	1 half-barrel Wine	26	13
	to W Danner	44	I barrel Winc	15	21
	P X, Bremen	1 Want shar	3 barrels Wine	133	50
	W. Bremen	C Schilling & Co	376 barrels Wine.	17,7186	10,675
		C Schilling & Co		21	27
	M. Berlin	**	I octave Wine	10	10
	D, Berlin	ii.	t keg Winc		
	V R. Berlin		I keg Wing	10	10
	B, Hamburg		2 barrels Wine	97	97
	S, Dresden		1 cases Wine		30
E	R & Co, Dresdon		3 barrels Wine	128	128
	**	**	1 barrel Brandy	50	42
1 '	r. Posen	** **	I keg Wine	ā	5
34	W. Posen	8.9	I keg Win	5	5
1.	W T, Kemper	**	3 octaves Wlne	80	81
	E. Koln	**	I octave Winc	28	28
	S. Koln	11	3 kegs Wine	54	5-1
	T. Numberg	**	3 kegs Winc	-158	111
	W. Hamburg	**	I keg Wine	1313	22
	L. Kohn	4.0	3 k gs Wine	663	63
	W S, Hamser	+1	2 kegs Wine	37	35
	A S, Sterberg	**	I keg Wine	16.	16
	S, Britzain		1 keg Wine	165	16
		11	1 keg Wine	16	16
	l', Delitz		2 kegs Wine	34	31
	eln, Bremen		I barrel Wins	35	35
	M K, Werzberg		1 barrel Wine	35	
	h, Trinity				35
	D. Hamburg		2 octaves Winc	46	45
F	M. Bremen		L cask Wine	62	62
			I barrel Wine	53	53
			1 keg Wine	10	10
	F. Bremen	1	I kez Wine	17	17 [
	S, Bremen		1 keg Wine	2.1	22
8	in diamond, Breinen		10 barrels Brandy	501	300
K	& V in diamond, Bremen	Kohler & Van Bergen.	21 cases Wine		87
		1.	5 kegs Wine	15	45
	84	**	3 half-harrels Winc	72	72
W	T. Bremco		100 barrels Wine	5,000	2,500
11	B. Bremen.	Schacht & Lenicke	I harrei Wine	48	10
	T M. Bremen	44	1 barrel Wine	50	35
	in diamond. Brenien	10	2 barrels Wine	120	100
	in diamond, Bremen	11	10 cases Wine		10
	J. bremen		B boxes Wind		35
	U. Bremen	11	1 box Wine		
31	14	4.9	3 casks Wine	150 (	75
	Total amount of Wine,	14 cases and		27 613	816 1:02

#### TO HONOLULU-PER STEAMER AUSTRALIA.

G	W	M & Co	Kohler & Van Bergen.	t IU kegs Wine	550.	8500
		94	**	125 kegs Wine	1,250	1,001
		11	**	I barrel Wine	50	30
W	8	L in diamond	S Lachnian & Co	1 barrels Wine		
		44	**	2 kegs Wine	223	193
W	C	P	B Drevfus & Co	3 barrels Wine	Lhtra	
		14		35 kegs Wine	350	
		14	11	70 kegs Wine,	3500	730
L	At .	H	Lachman & Jacobi .	10 ha f-barrels Wine	280	234
		******	**	2 half harrels Wine	545	-13
L	80	C	Loveloy & Co	5 halfs arrels Whickey	134	371
		41	- 11	10 cases Whiskey		85
L	D.		W Imerding & Co	I barrel Whiskey	3.1	17
H	Æ	W	W II II Ames	2 kegs Wine	54	39
			A pad Haraszthy & Co.	6 barrels Wine	295	219
		86		B1 kegs Wine	320	2111
F	A:	S & Co	C Shilling & Co.	2 casks Wine	122	82
E	H	C	hohler & Frohling.	75 kegs wine	750	450
		11	**	30 kegs Wine	1.50	EM3
84	J,		John T Harriand	I barrel Whiskey	111	81
W	S	L	11	1 barrel Whiskey	11	541.5
		K in diamond	Hakalan P Co	I cas s Wine		35
G	in	diamond		240 kegs Wine	1,45,5 (	
		6.0	*1	20 cases Wine		1,136
					-	
		fotal amount of Wine, 3	375 cases and		6,625	85,357
		Total amount of Whiske	3, 11 cases and		219	661
-					ander .	

#### MISCELLANEOUS SHIPMENTS

prefixation.	2 KW-81	810.	GALLONS	VALUE.
Hanolulu.	Forest Queen	Bark	25	8 12
	Mexico	Steamer	17	10
Victoria		Steamer	51%	231
Japan	City of New York	Steamer	1,454	455
China	16	Steamer	1163	38
	I matilla	Steamer	1451	44%
	Zealandia	Stramer	300	12
	Belgie,	Steamer	50	1%
Penang	96	Stranier	3400	50
Manth		Stranger	1.20	50
	Newbern			
i iverpool	Falls of Clyde.	Ship	3,166	1,362
Total			2 4 2 4	
10131 ,			4,1,10	83,345
Total slupments by Pa	nama steamers	25.09	L callotte	811.330
Tota! Miscellaneous sh	pments	11,11		24,825
Grand totals		4314, Est.	5	36.155

#### CHALLENGE

## Double Acting Wine Force Pump



The annexel cut represents our Horizortal Challenge Wine Pump, of great compact sea and power, for use in win celars for jumping from one tank into another. The Cyline cras of our from jumping from one tank into another. The Cyline cras of our from times are brass, our all Brass Pumps are in desentirely of brass, with the cavegified the lever, and at an extra charge we will furnish them also with all incitallic valves.

The water was are large and very direct, and the shole pump is so simple that there is no habitity to get out of order, and so substantial as to be very enduring. The Pump is extensively used by Wine Men. Being compact it is easily emoved from place to place. The arrang ment of the lever makes it has faborious to work than the ordinary lever. We recommend this Pump to wine dealers as the most service able Pump for their requir ments, and granuted them equal in every respect to any Pump for this purpose in the market.

#### EACH PUMP IS GUARANTEED.

We carry o full line of Wine, Brewers' Gorden and Steam Hose of all sizes and qualities. Wine Coevs of all descriptions. Wine and Fermenting Tanks. Send for prices.

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#### CLUFF BROS.

9 & 11 Montgomery Av. 40 & 42 Fourth Street. 409 & 411 Montgomery Av 401 Hayes Street,

SAN FRANCISCO, CAL.

#### Wine I'rom Hose Leaves.

Says a lady of this city, who is a good housekerper: "I visited a friend recently, and she gave me a glass of wine. It was of a pale amber tint, and had all the sparkle and flavor of champague, and when opened popped loudly. It was effective, though mild, as a stimulant, and I thought it very fine. I asked what variety of grape it was made from, and my friend told me it was made from rose leaves. "Take the fresh picked leaves,' she said, 'and put into a jar alternally, a layer of leaves and sugar, and pour over a little cold water! In four days strain, let stand a week and hen bottle for use. The wine is a delightful heverage."-At'anta Journal

#### LIVERMORE RAISINS.

Mr. T. E. Rickey, of Livermore Valley, had most excelent success last season in drying Muscats in the open air. The raisins made were of good quality and brought as much as the Fresno growers obtain for their crops on the trays. The quickest method of drying is by laying the bunches on the ground-loose gravel being the best. In case of rain, the small grower can always find enough matting, canvas, boards and other like material about the place to cover the crop. When placed on the ground, the bunches do not need turning, the under side drying quicker than the upper.

#### MYSTERIOUS DEATH OF VINES.

An investigation into the causes of the mysterious death and decline of grape vines at certain points in Southern California has been in progress at the University Experiment Station for several weeks. The work was undertaken to test the results announced last year by reinvestigation, and because the loss and vexation resulting from death of vives cuntinues in the same localities affected last vest.

Quite s large collection of vines in different stages of decline was secured from the growers. In some cases the vines was almost lifeless and had made but the most feeble attempt to break its buds, in others one cane had made a fairly vigorous start, while others did little or nothing; in others still all the bads had thrown out a few inches of very weak cane. Thus we had for examination vines in various morbid states. The examination of this material was also much helped by careful description of the progress of the trouble by the growers and by personal investigation in the field by Mr. F. W. Morse. The results of the examination as to locating the trouble in the vine itself were mainly negative as was the case last year. Although most careful microscopic examination of the leaves and wood of the affected vines were made, there was no parasite of either animal or vegetable nature found. In fact the tissue of leaf, cane and trunk was found to be perfectly normal, except that there were clear indications of defective nutrition resulting from a stoppage of the sap supply. Why this stoppage occurred there was nothing in the vines themselves to show, In some samples submitted, a part of the sap ducts were partly or wholly closed with gnmmy material, presumably the result of condensation of the small sap flow, because of lack of pressure to carry it onward to the nourishment of the newer growth, but there was not, on the whole, nearly sufficient costruction to prevent the flow of sap had the flow been normal. In fact the decapitation of vines in the vineyard showed that there was in some cases very little sap flowing and in others none at all. This checking of the sap flow if not the immediate parsite attack and where it sometimes results as a secondary effect, the tissue of the plant shows the disorganization produced by the earlier invasion of parasite growth. In the cases examined this source of trouble was plainly precluded because the tissue was normal and healthy, except in the noticeable deficiency in the sap flow, This fact was determined by repeated examination, both of cross and longitudinal sections of the new growth, the younger wood of the spure, the trank of the vine and the roots and rootlets - even to the smallest which could be found on the vines sent to us.

The conclusion is a verification of the results set forth last year by field examinations by Mr. Morse and by microscopic investigations in the laboratory-nu account of which is given in the Viticultural Report of the University for 1886, to which the reader is referred. His conclusion was that there was nothing found that would indicate a true disease which might increase and epread to neighboring vineyards, but that the phenomeus were tesceable to more or less accidental and local peculiarities of soil, season, moisture, conditions, etc., which may not recur and produce similar effects for many years. It is altogether likely that the continued decline of vines Alexander Duncan, John Orr; Occidental,

sequence of unfavorable conditions prevailing in the winter and spring of 1886. Since the loss has been greatest in districts where vines have been longest cultivated, it is possible that the evil has been aggravated by the gradual exhaustion of the soil; pointing to fertilization as at least a partial remedy and preventative by enabling the vines to rally from their enfeebled condition, through the recuperation of the root system.

#### EABLY IN THE FIELD.

The committee appointed at the meeting of the Sonoma Fruit and Grape Growers Association Saturday to draft an address to the citizens of the county, relative to the proposed exhibit of the county products to he made at the Mcchanics' Fair, concluded its labor Monday. The address represents the sentiments of the association and is recommended to the consideration of every citizen of the county who has its welfare at heart.

WHEREAS, The products of Sonoma county have heretofore held the first place in competition with those of other counties of the State, and

WHEREAS, It has been decided to enter into competition again at the approaching fair of the Mechanics' Institute of San Francisco, and a determined effort is manifested to wrest from us our well deserved laurels, and

Whereas, It is desirable to maintain our reputation as the "banner county" of the State, and this can be done only by general and hearty co-operation,

Resolved, That we hereby call upon our citizens to make a vigorous effort to secure an exhibit from our county superior to anything hitherto offered.

The fair will be held from August 7th to September 15th.

Other counties are already at work gathering articles for exhibition, and some of them have secured as much as \$1,200 in cash, to be expended in making their respective displays attractive. Our county can maintain its banner position, but the competion will be fiercer than ever. If we are not to lose our good reputation, we must waste no time and spare no efforts. Other counties are weeks ahead of us. We must have the choicest products that can be gathered, and, if possible, \$1,000 in cash.

Those who are ever ready to contribute from their farms and factories, should also give, and aid in getting money to show their contributions to advantage. We must have immediate personal effort, yours, as wells as ours. We hope you will begin work at once, and, also, get your neighbors at work. The several railroad companies will carry all articles intended for exhibition free. Cash premiums aggregating over \$1,200, are offered for individual display. Contributions of eash may be forwarded to Mr. G. Tupper, the County Treasurer, who has been appointed treasurer far the exhibit, or any one of the following persons will advise concerning shipments, viz

Cloverdale, W. D. Sink, J. J. Jones; Healdsburg, F. B. Mulgrew, T. S. Merchant; Geyserville, Ex-Supervisor Ellis, John Markley; Windsor, H. J. Pool, W. J. Hotchkiss; Fulton, E. A. Hove, E. W. Woolsey; Guerneville, T. Heald, G. Guerne; Eorestville, L. Ross John Clark; Sebastopol, William Berry, C. Solomon; Duncan Mills,

observed this year is but the natural W. C. Meeker, J. D. Connolly; Bodega, Mat Aiken, M. McGaughey; Bloomfield, G. W. Kuapp, A Lefebvre; Petaluma, Wm. Hill, G. W. McNear, Geo. F. Allen; Sonoma, D. D. Davidson, Robert Howe, A. J. Poppe; Gleu Ellen, R. C. Hill, H. E. Boyes, M. K. Cady; Los Guilucos, H. Hilton, J. Kerridge; Knights Valley, Calvin Holm's; Sonoma valley at large, J. K. Luttrell; Santa Rosa, J. W. Ragadale, J. F. Smith and E. P. Colgan.

Hoping for your prompt and hearty cooperation, we are

Yours truly.

JOHN ADAMS, E. B. Rogens, F. E. SHEARER, Executive Committee

Santu Rosa, July 16, 1888.

#### THE STATE BOARD OF TRADE.

The annual meeting of the State Board of Trade was held last week. General Manager Brown and Secretary Davies submitted a report in relation to the labor supply for the season's fruit harvest. It was to the effect that the grain harvests, the work of picking and packing fruits now ripening in the orchards and the vintage of the vineyards will give employment to a large number of laborers in excess of those now offering their services in this work. At the same time a large number of boye, from 12 to 18 years of age, and of girls of suitable age, to be of service in the packing and drying establishments of the State, are idle in the large cities and towns. These facts having been brought to the attention of A. N. Towne, General Manager of the Southern Pacific Company, the question has arisen whether the labor of industrious boys and girls cannot be utilized in the orehards and vineyards of the State. In order that some good may be accomplished in these directions the Southern Pacific Company offered to facilitate the transportation of boys and girls from San Francisco, Sacramento, Los Angeles and Stockton to any part of the State where their services may be required at the lowest possible rates of transportation, and to accomplish this end the company was willing that the matter should be under the control of the State Board of Trade and the subordinare branches. It was also required that all requisitions for help by those desiring to employ labor shall be made through the local Boards of Trade or Improvement Associations and sent to the headquarters in this city, the Improvement Association of Sacramento, the Board of Trrde of Stockton and the Board of Trade of Los Angeles, By this means the supply of this class of labor will be under the supervision of the State Board. Boys and girls excepting such employment shall be forwarded to their destination free of charge and returned to their homes free of charge upon presentation of the certificate of their employer. The plan as ontlined by the report was adopted, and the officers of the board were instructed to carry out its purpose. The receipts of the year were reported to be ecllect and forward your subscriptions or \$11,107,75, and the disbursements \$9,336.20,

#### HINCS ON GRAPE DRYING.

The subject of grape-drying, which is a prominent one in this State at the present time, is now being agitated in Livermore Valley. The experiment was tried in Fresno last season with good enccess. Almost auy variety but Burger will do, and Eastern correspondence has developed the fact that at a time about an eighth of an inch thick.

there is a brisk demand for all that can be supplied. The Fresno output last sesson was sold at 31/2 cents a pound-equal to about \$22 a ton for the grapes; but Eastern commission men predict even better prices this year. At the viticultural meeting last Saturday, it was held that the grapes could easily be dried in the open air in Livermore, probably in about H days. Clean gravel was recommended as the best place to dry, and trays could be used to cover the grapes in case of rain. Grapes to be dried should be very ripeeven left to shrivel a trifle; or the stems may be twisted, and the bunches left to dry on the vinc. These grapes are used by poor people, in lieu of raisins, and make a very good substitute for use in puddings and cakes. This opens a new industry in this Valley, which will dispose of many of the wine grapes, and tend to improve prices for the remainder.

#### A FOOL AND HIS FOLLY.

The late King of Bavaria was renowned for his eccentric notions, one of which was a great repugnance to old wines. As the celebrated Wurzburg cellars contained some wives of remarkable age and character, and such stock became a thorn in the flesh to the poor half-demented King, accordingly the grand cellarman-a baron and a peer of the realm-was instructed to dispose o it; this he did to a German dealer who has since sold in various quarters. Mossrs. Spiers & Pond have become purchasers of some of the curiosities from the Roya Bavariau celler, which are to be obtained at the East Room in the Criterion. Among them is to be found some Steinwein, grown in the year 1540, when Henry VIII was reigning; some Leistenwein of 1632; Steinwein of 1731; Johannisberg of 1811; and Rudesheimer and Hochheimer of 1822. These wines are said to be a beautiful golden color, and perfectly clear, and even the oldest retains considerable bouquet. The firm also offer some of the Duke of York port, vintage unknown, but bottled in 1798, which is a great curiosity and said to be in fine preservation .- Harper's Weekly.

#### ORIGIN OF THE WORD TARIFF

At the southern point of Spain, and rnuning out into the Straits of Gibralter, ie a promontory, which, from its position, is admirably adapted for commauding the entrance to the Mediterranean, and watching the exit and entrance of all ships. fortress stands upon this promontory, called now, as it was also called in the Moorish denomination,"Tarifa." It was the custom of the Moors to watch all merchant ships going into or coming out of the midland sea, and, issuing from this stronghold, to levy duties according at a fixed scale on all merchandise passing in and out. And this was called, from the place where it was levied, tarifa; and from this comes our word tariff .- Confectioners' Journal.

#### A CURE FOR WET CELLARS.

The following, it is said, is an admirable cure for wet cellar walls: Boil two onnces of grease with two quarts of tar for nearly twenty minutes in an iron vessel, having pounded glass one pound, and slacked lime two pounds, well dried in an iron pot and sifted through a flour sieve. Add some of the lime to the tar and glass to form a thin paste, only sufficient to cover a square foot

#### MEGHYLATED SPIRIT

In view of the present situation of the Methyl alcohol bill, the following from an English exchange is interesting:

It is well known that a large amount of alcohol passed into commerce duty-free in consideration of an adadxture of ten per cent of maphtha, which is supposed to render it undrinkable, is nevertheless consumed as beverage by the less scrupulous classes of our large towns. Crade naphtha is not unfrequently imbibed with or without admixture of other fluids by degraded individuals, whose palates have been viciously educated by partaking of officinal methylated spirit. The disastrous physiological effects, the destruction of the h alth of the drinker and the increase of the depraved thirst which calls for repetition of the fiery draught, are matters of which it is difficult for legislators to take cognisance without infraction of personal liberty. But the fraud on the Excise is a matter of which the State must take notice, and the loss of business which the pernicious tasto causes to the producers of honest wholesale beverages justifies, and indeed calls for united action on the part of the trade. Ready sympathy and co operation may be looked for from manufacturers whose products or processes are detrimentally affected by the presence of nuphtha in the alcohol they require to use, and who would be glad to have it replaced by some substance innocuons to their manufacture, while efficiently preventing consumption of the admixture as a beverage. There are several such substances used on the Continent, at the option of the manufacturer who requires the alcohol. Petroleum spirit, pyridine (a coal tar derivative of offensive oder and taste) and some isimilarly constituted bodies, incapable of separation from alcohol by redistillation (which is not the case with naphtha), present a sufficiently wide rang of selection to meet the requirements of manufacturers, the difference of cost being trifling in comparison with the advantages afforded by choice. The general favorite in Germany is pyridine, which, as we have said, is procurable from the waste of gas works, and can be made cheaply and abundantly. Mr. Forbes Carpenter, Inspector of Alkali Works in the Liverpool district, states that it forms the offensive element in "devil water," produced at a certain stage of the purification of gas, Its composition is represented by C H N, and it is not poisonous. Professor Hofmann of Berlin, was the first to suggest its use for the purpose of rendering alcohol undrinkable without impairing its utility for other purposes. The other admixtures would be specifically named according to the componods used, and a general term for all apirits so heated would be soon designed Respectful but firm representations on these points from the trade and others in co operation would doubtless be met with consideration by the authorities, especially as a modification of the existing regulations would benefit alike the State, the trades interested, and the community at large

The Chief Constable of Ediuburgh has drawn attention to the extensive sale of methylated spirit on Sunday afternoons by draggists whose doors are open for the BY PROF. GEORGE HUSMANN. dispensing of "medicines,"

### LEVERMORE GHAPES.

The Oakland Evening Tribuar does not believe in the quality of grapes is Livermore valley for drying. It says: we fear

that the Livermore grape growers will be compelled to abandon their idea of drying their grapes, which they propose as a measure of self defense against the combination said to exist among the winery men to force down the price of grapes. The fact that the best wine grapes, such as have been largely planted in the Livermore valley, are as a rule poor material for making raisins. They are rather juicy than meaty, and when dried, little remains but skin and bone. But this is no reason why the growers should be discouraged. There are at least two solutions of their present difficulty, either of them much better than that which has been proposed. If the grape growers of the valley will combine and organize as a co-operative association we do not think there would be any difficulty in securing the necessary capital to furnish the plant of a winery large enough to handle their crops, especially if a distillery, as an adjunct to the manufacture of sweet wines of the port and angeliea classes, be included. As a matter of fact, more money has been made by California winemakers in the manufacture of sweet wines than in any other branch of the business. It is true that sweet wines, so called, are not really wine in the true sense. nor are they of the kind on which we believe that the reputation of the Livermore district will eventually rest, but their manufacture is a very lucrative business of great simplicity, which no winemaker can afford to disregard as an adjunct to the general business of making light winea.

There is another solution of the difficulty in the must condensing process. So far as we have heard, this process works successfully. The plant cannot be too expensive to be out of the reach of an association of grape growers. It will put their grape must in a shape in which it can be kept almost indefinitely and exported at small cost. We do not know how it sells as an article of commerce, but there is no doubt that a market can be found for it in the big cities of the East.

### BLACKMAILING CHECKED.

One of the most prominent Eastern trade journals comments on the recent order of the postal authorities as follows: Writers of abusive or threatening postal cards-and many skulking wretches have been indulging in that practice- will be wise to notice that Congress has just passed a law which fixes a fine of \$100 to \$5,000 and imflicts imprisonment of one to ten years upon every convicted rascal in that line. A principal purpose of the law, besides checking mere blackgardism, is to put a stop to the operations of certain bad-debt collectors, who were sending such postals together with envelopes with blackmailing threats on the outside, in order to force payment by annoyance,

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#### LAND PATENTS

The governor has signed land patenta as Fresno county; R. E. Jack, 610 acres, Tulare; William Thomas, 48) acres, Lake; John A. Jones, 640 acres, Kern; John A. Rose, 610 acres, Tulare; Richard Dev-Gaughran, 80 acres, Placer; B. F. Porter, 320 acres, Montercy; G. H. Singley and G. W. Barger, 200 seres, Mendocino; A. W. Riley and J. A. Hardin, 160 acres, Tchama; R. W. Conrad, 329 acres, Tehana; C. G. Sayle and M. J. Blasingame, 312.96 acres, McLaughlin, 160 acres, Del Norte; H. C. Fresno; A. Whitaker and Don Ray, 320 Siskiyou.

acres, Calaveras; T. G. Yancy, 640 acres, Fresno; Curtis Woodruff, 160 acres, Del Norte; W. E. Van Slyke, 210 acrea, San follows: Austin E. Moore, 619 acres, Bernardino; B. F. Langford, 160 acres, San Joaquin; John Bermingham, 320 acrea, Kern; Mrs. James Crawford, 80 acres, Sterra; George A. Moore, 326 acres, Placer; Charles A. Grow, 640 acres, Kern; James enish, 24.75 acres, Hamboldt; M. Me- T. Lorton, 8 59 100 acres, Ventura; D. K. Zuniwslt, S. J. Simon and E. Simon, 440 acres, Tolare; C. C. Webb, 2,240 acres, Siskiyon; C. Hartson, 160 acres, Napa; L. F. Cooper, 131 71 100 acres, D 1 Norte; A. Dinkelspiel, 320 acres, Fresno; Joseph Cohen, 640 acres, Mendocino; Samuel Ra-Fresno; A. M. Grin, 640 acres, Fresno; John hoefer, 32) acres, Fresno; George Mose, 610 acres, Freono; L.W. Kimball, 42 80-100 Smith, 640 acres, Fresno; J. H. Keyes, 80 acres, San Diego; John Carman, 17 36-100 acres, Sutter; Heary Cutner, 320 acres, acres, Stanislaus; F. X. Herr, 160 acres,

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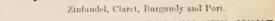
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LIQUID ALBUMENS FOR WHITE WINES, Riesling, Gutedel, Sauternes, Sherry and Madeira, also for distilled

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### WINE CORRECTOR,

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### WINE RESTORER,

For Restoring Badly Made or Badly Treated, Harsh and Acid Wines.

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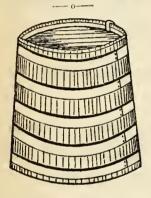
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etc.

etc.

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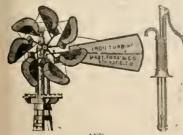
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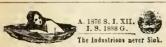
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For Haywards, Niles, and r	°12.45 г
8 00 a For Martinez, Vallejo, Santa   R sa and Calistoga.	6.15 :
8.30 A Fast Mail for Orden and East.	10.45 A
9.00 a ForNiles, San Jose, Stockton, Galt, Ione, Sacramento, Marysville and Red Bluff	5.45 8
9.30 a Los Angeles Express, for Fresno, and Los Angeles	12.15
10 30 A For Haywards and Niles	2.15
12.06 M For Haywards and Niles	* 3.45
1.00 r Sacramento River Steamers.	** 6.00 A
3.00 a For Haywards, Niles, and ) San Jose	9,45 🛦
3.30 P C. ntral Atlantic Express, ) for Ogden and East	12 45 P
4.00 p (For Stockton and \$Milton; for Vallejo, Santa Resa and Calistoga	10.15 🛦
4.30 P For Sacramento, and for Knight's Landing via Davis	9.45 🛦
4.30 P For Niles, San Jose and	* 845 4
5.30 P For Haywards and Niles	7.45 A
6.30 P Sha-ta Route Express, for Sacramento, Marysville, Reddin , Portland, Puget Sound and East	7.45 ▲
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VOL. XX, NO. 10.

### SAN FRANCISCO, AUGUST 17, 1888.

### PRICE 15 CENTS

### GRAPE GROP OF 1888

Reports Received by Clarence J. Wetmore, Secretary of the State Vitiraltural Commission.

ALAMEDA COUNTY.

Report of J. L. BEARD, Warm Springs,

No damage from frost. Slight damage from coulure and aun horn.

Zinfandel, Mataro, Folle Blanche, Goldev Challelas, Muscat and Rose Peru will produce a full crop. Verdal, Flame Tokay, Cornichou and Black Ferrara a light crop This year's crop will be double that of 1887,

Report of CAPT. H. II, ELLIS, Sunol.

No damage from frost; slight damage from coulore and mildew. All varieties will produce a full crop. This year's crop will be heavier than that of 1887.

Report of STOVER & BIGBIE, Pleasanton. No damage from fom frost. Ten per cent damage from conlure. Three per cent loss from ann burn. Zinfaudel will produce a full crop. We estimate the wine production of Livermore valley at 400,000 gallous.

Report of Wente & Wegener, South East Livermore.

No damage from frost. Ten per cent damage from coulure; five per cent loss from sun burn. This year's crop will be fifty to seventy-five per cent more than that of 1887. We need more wineries and better prices for grapes.

Report of J. P. SMITH, (Olivina) Liver-

No damage from frost. Very slight damage from coolure; small loss from vine hop-

Zinfandel, Colombar, Mataro, Carignan, Tannat, Bonschet, Burger, Folle Blanche a full crop. This year's crop will be oncthird larger than that of 1887

### NAPA COUNTY.

Report of S. Keller, Calistoga.

No damage from frost. Ten per cent damage from coulore. Grey Riesling injured some by vine hopper.

Zinfandel, Colombar, Johannisberg Riesling, Tannat and Carignan a full crop. Franken Riesling, Orleans Riesling and Mataro a light crop.

Report of CHAS, KBUG, Bello Station to Calistoca.

Damage from frost in my neighborhood

place not more than 200 tons; damage from coulure about 800 tons. Damage from phyllivera, vine hoppers and army worm 300

Burger, Zinfandel and Chasselas quite good. Mondeuse and Petite Syrah, good; Sanviguonvert on most places very good, whileon other places only half a crop; Riesling very light in most places; Mission and Malvoise (thank heavens) light ou account of old age, conlure, black measles and sun barn.

The crop of 1888 will be one-fifth more than that of 1887. Estimate the production of Napa county at 3,500,000 gallons and may be below that figure.

Report of A. Brun, Oakville.

No damage from frost. Thirty-three per cent damage from conture.

Zinfaudel, Black Bargundy, Semillon, Chasselas and Burger a full crop. Franken Riesling and other white grapes a light crop. This year's crop will not exceed twothirds of what we had in 1887. Estimate the wine crop of the county at 2,000,000 gallons (mostly claret).

Report of H. W. Crabb, Oakville.

No damage from frost. Twenty per cent damage from conlure, five per cent damage from other causes, principally phylloxera. Zinfandel and Burger will produce a fall crop. All other varieties affected by coulnre.

This year's crop will be twenty-five per cent greater than that of 1887, but twentyfive per cent less than 1886. Estimate the wine crop of the county at 3,500,000 gallous. A humid atmosphere might increase it 250,000 gallous and a dessicating one decrease it to the same extent. This valley will produce from 50 to 100 tous of table grapea. There are about two million gallons of wine remaining in the cellars, but mostly held by parties who will not dispose of it for less than 20 to 25 cents per gallon. The prices of grapea will probably be lower than ever before known in the history of viticulture in the State. Unless there is a reaction in the wine market the vineyards will be neglected and converted into orchards of olives, almonds and other fruits because no one can afford to grow grapes for \$10 per ton.

Report of GEO. HUSMANN, Chiles Valley. No damage from frost, Fifteen per cent damage from confure.

Zinfandel, Sanvignon Vert, Marsanne, Green Hungarian, Chasaclas, Mission and 500 tons. Balance of loss from frost in other | Malvoisie a full crop. Franken Riesling,

Chauche Gris, Chauche Noir, Petite Pinot, Muscadelle da Bordelais, Sultana, Clairette Blanche a light crop. The crop in my vicinity will be more than donuble that of 1887. Estimate that the vicinity of Chies Valley will produce 50 to 60,000 gallons of

The vines in all the vineyards show great vigor, only too much so, and it is difficult to keep them under control. The Zinfandel, Sauvignon Vert and Marsanne in my vineyard have a crop of ten to twelve tons per acre on vines five to six years years old,

Report of M. M. ESTEE, Napa.

No damage from frost or confure. Considerable damage from phylloxera. I have every year filled in my vineyard with resistant vines and are thus nearly even with the destructive force of the disease. Most all varieties except Franken Riesling will produce a full crop. This year's crop will he more than 1887 but less than 1886,

### SONOMA COUNTY.

Report of J. C. Fisk, Fisherman's Bay. No damage from frost. One per cent damage from conlure. Not any of the varieties will produce a full crop. This year's crop will be fifty per cent less than that of 1887. We need practical men to come here and plant vineyards.

Report of L. C. Cuopius, Forestville.

No damage from frost. Twenty-five per cent loss from confure. Zinfandel and Burger a full crop. Nearly all thrifty growing varieties a light crop. Many old vines, auch as the Mission and others, the buds came out stunted, supposed to be caused by exhaustion of parent stock or else by the severe cold weather during winter. year's crop will be slightly heaver than that of 1887. There is a complete tack of winerica in this neighborhood. At present the nearest winery purchasing grapes is six or seven miles away.

Report of D. Cozzens, Cozzens.

No damage from frost Zinfandel and Chasselas a full crop; Riesling a light crop. This year's crop will be five per cent greater than that of last year.

Report of A. Lancel. Occidental.

No damage from frost. From five to twenty per cent damage from confure Zinfandels about a full crop. This year's crop will be twenty-five to thirty per cent less than that of 1887. Some old vines look very bad and do not grow well and should be examined by proper parties.

Report of Mrs. E. A. Hood, Los Guilicos. Two per cent damage from frost. Ten por cent damage from conlure.

Zinfandel, Sauvignon and Mission a full crop. Cabernet and Pinot a light crop. This year's crop will be twenty per cent larger than that of 1887.

Report of J. R. Jewell, Petaluma.

No damage from frost or conture. The crop of 1887 was almost a failure, caused by coulure. This year's crop bids fair to be from two-thirds to three-fourths of a full crop. Zinfandels have a full crop.

Report of J. G. HEALD, Cloverdale.

No damage from frost. Very little loss from coulure; one per cent damage from mildew. All varieties except Riesling and Feher Szagos will produce a full crop. This year's crop will be twenty five per cent greater than that of 1587. Our prospects for quantity and quality is very encouraging, but prices are the opposite.

R port of CHAS, KNEST, Cloverdale.

No damage from frost or coulure; ten per cent damage from vine hoppers and sun hurn. None of the varieties will produce a full crop. This year's crop will exceed that of last year, but not so much as was at first estimated

Report of J. W. Treadwell, Santa Rosa. No damage from frost; very little loss from

All black grapes a full crop. White grapes a light crop. This year's crop will be three times as great as that of 1887

Report of BUCKNER BROS, & REQUA, Santa Rosa.

Five per cent loss from frost; ten to fifteen per cent loss by coulure.

Burger, Golden Chasselas and Mission a fall crop. All others a light crop. This year's crop will be seventy-five to eighty per ceut of a normal yield, and will be somewhat larger than that of 1887. What is most needed here is more wineries and storage room.

Report of LAY, CLARKE & Co., Santa Rosa, No damage from frost or coulure. This year's crop will be much heavier than that

Report of Jas. A. Shaw, Glen Ellen.

No damage from frost. Zinfandel a full crop; all others light. White grapes not over half a crop. This year's crop slightly heavier than that of 1887.

Report of J. H. DRUMMOND, Glen Ellen No damage from frost. Fifteen per cent from phylloxera, and ten per cent loss from hot weather and fungoid diseases.

Zinfandel, Burger, Charbono, Mataro, St. Macnire, Gros Mancin, Folle Blanche, Gamai, Marsanne and Malvoise a full erop, Petite Syrah, Gutedels, Franken Riesling, Cabernet Sanvignsn, Malbeck, Chalosse, Franc Pinot, Orleans, Chauche Noir and Chanche Gris a light crop. Semillon and Suuvignon Vert a fair crop.

This year's crop will be twenty to twentyfive per cent more than that of 1887. Taking the whole out put of all wines last year, good, bad and indifferent at 15,000,000 gallons (an over estimate), I would put this year's erop (if nothing unforeseen happens) at not more than 18,000,000 gallons of marketable wine, and I faucy my estimate is high. Last year at the commencement of the vintage serious damage was done by hot weather, and this may occur this year. 'The more common varieties even this year seem to me to be short, and in our county the most common varieties are the most largely planted owing to the unfortunate practice of our chief grape buyers not discriminating sufficiently between a grape of the most ordinary quality for wine, and a grape producing wine of high order and undoubtedly the market price for wine has been greatly reduced by our chief wine makers not utterly refusing to take grapes that were not fit to make good wine, only insisting on a low price. This has caused much inferior wine to be placed on the market to the grent detriment of the whole industry.

Report of ELI T. SHEPPARD, Sonoma.

Five per cent damage from frost. Eight per cent damage from coulure; the loss from phylloxera is considerable. The year's erop will be thirty-three and one-third per cent heavier than that of 1887. I estimate the wine production of the county at 2,000,000 gallons; table grape production at 750 tons. The importance of resistant vines in phylloxera districts can scarcely be over-estimated. It is the only hope of successful vine growing in this part of the State. Considerable acreage of resistants have been planted, but as yet the amount planted has not kept pace with the destruction of the vinifera by the disease and the gloomy ontlook for wines prevents many persons who otherwise would replant, from doing so. It is worth remarking that in no single instance has resistant vines shown any sign of succumbing to the pest. In every case known where the vinifera has been grafted on resistant stocks the increase in production has fully justified the added labor and expense of planting resistant stocks.

Report of O. R. Ruins, Sonoma.

No damage from frost. Small damage from conlure. Considerable loss from phylloxera on hill and poor land. This year's crop will he fifty per cent heavier than that of 1887, and I estimate the crop of the county at 3,500,000 to 4,000,000 gallons. Owing to the low prices of wine grapes for the past two years, planting of new vineyards has been checked for the present in my district.

### SANTA CLARA COUNTY.

Report of J. C. MERITHEW, Cupertino. No damage from frost. Twenty per cent damage from coulure. Zinfandel a full crop. Mataro and Charbono a light crop. This year's crop will be about the same as that of 1887, and I estimate the wine production of this county at 2,000,000 gallons, but it may be less as the berries will be small and will not yield much juice; the as large as that of 1887.

damage from couldre; five per cent loss grapes are twenty days earlier than usual, If we had free brandy I should turn all my grapes into brandy and sweet wines, as there is enough elaret on hand to last one year or more. All we want now to make this industry boom is cheap rates for freight and free brandy.

> Report of R. Heney, Jr., Mountain View. No damage from frost. Twelve per cent. damage from coulure.

Malbeck, Mataro, Carignan, Grenache, Cabernet Sauvignon, Merlot, Verdot, Tanuat, Burger and Zinfandel a full crop. This year's crop will be 331/2 per cent more than that of 1887. For my part, would like to see better prices for our products.

Report of Wm. Pfeffer, Gubseville.

No damage from frost. As usual Malbeck and Petits Verdot suffer from conlure. Cabernet Sanvignon, Gros Verdot, Merlot, Pieffer's Black Burgundy, Mondense, Tannat, Crabb's Black Burgundy, Matero, Cu rignan and Zinfandel a full crop. This year's crop will turn out about the same as that of 1887. The indications are for an early vintage.

In times of low prices of grapes and wine it may not seem pressing work for a thorough revision of the nomenclature of onr grape vines, for we now hear of vines originally coming from Italy the southern part of France and the Lord knows where. all designated as Burgundies, while, forthermore, it is a fact that California is very deficient as yet in the line of Burgundies. and it would be well to give the proper names to these so-called Burgundies.

Report of C. Freyschlag, Pioneer.

No damage from frost. Five per cent loss from conlure.

Zinfandel, Mataro, Grenache, Burgundy, Charbono, Mission, Reisling and Folle Blanche, a full crop. Black Pinot and Muscats, a light crop. This year's crop will be the same as that of 1887.

Report of Louis D. Combe, San Jose.

No damage from frost. Ten per cent. damage from coulure. Zinfandel, Grenache, Carignan, Cabernets, Malbeck, Crabb's Burgundy, Semillon, Sauvignon Vert and Burger a foll crop. This year's crop will be about fifteen per cent, heavier than that of 1887 and I estimate the wine production of the county at 2,500,000 gallons.

There is a remarkable discrepancy in the prospective crops of adjoining vineyard due principally to an unnecountable notion that prevnils in the growing of some varieties, One would suppose that much experimenting was still in progress and that either no rule could be laid down for pruning or that the vine grower did not wish to comply with them. The unfortunate apparent preference for chenp wines in the trade gives poor encouragement to those who have or would make superior selections of

Report of R. T. Pierce, Santa Clara.

No damage from frost or coulnre. All varieties will produce a full crop. This year's crop will be thirty to forty per cent. greater than that of 1887. At least ten per per cent, more wine will be made from a ton of grapes this year than was made last year.

Report of Geo. E. Hyde, Saratoga.

No damage from frost. Some damage from conlure. Zinfandel, Mataro, Tronssean and Black Burgundy a full crop. Sanvignon Vert, Carignan, Charlono and Mus cat a light crop. This year's crop is fully Report of E. Meyer, Wrights.

No damage from frost or conlure. All varities a full crop. This year's crop will compare favorably with that of 1887.

### SAN BENITO COUNTY.

Report of Wm. Palmtag, Hollister.

No damage from frost or coulure. Zinfandel, Burger, Iteisling, Pinot and table varieties a full crop. Charhono a light crop

This year's crop will be double that of 1887. Twenty-five thousand gallons of wins will be made in the county and thirty tons of table grapes will be produced. All vines are growing thriftily and are looking well.

#### SANTA CRUZ COUNTY.

Report of Dr. J. A. Stewart, Santa Croz. No damage from frost. Some damage from coulure. Do not think this year's erop will equal that of 1887, and certainly it will not excel it. Santa Cruz holds out no prospect for the prophesied 30,000,000 gallons and I know there will be no such amount produced in the State.

From 300,000 to 350,000 gallons will be made in this county and we will raise from 15,000 to 20,000 tons of table grapes. Vignerous here are depressed beyond measure at the wine outlook and thinking of sinking the whole business in the sea. speak of wine is to make them see red and go mad

Report of Wm. Maitland, Boulder Creek. No damage from frost. But little loss from coulure. All varieties excepting Charbono will produce a full crop. This year's crop will be larger than that of 1887.

### CONTRA COSTA COUNTY.

Report of E. B. Smith, Martinez,

No damage from frost. Loss on Tokay and Muscat one-half from coulure. Two per eent. loss from sun burn. Zinfandel, Black Burgundy, Grenache, Golden Chasselas, Burger, Petit Bouschet, Mataro and Rose Peru a full crop. This year's crop of wine grapes will be double that of 1887, while of table grapes it will be less. The county will produce 300,000 gallons of wine and 200 tons of table grapes. The planting of wine grapes has almost ceased in this county in consequence of the depressed condition of the wine market. Some have already commenced to graft their wine grapes into table grapes. Should there be no improvement in the price of wine the coming season the grafting out of wine grapes will be very general in this

Report of Dr. J. Stentzel, Martinez.

No damage from frost. One per cent. damage from coulure and one per cent. damage from insects. Zinfandel a full crop. Muscuts and Flame Tokay a light crop. This year's crop will be fifteen per cent. heavier than that of 1887. The county will produce 1,000,000 gallons of wine, 800 tons of table grapes and 500 boxes raisins,

Report of John Swett, Martinez.

No damage from frost; Muscate damaged twenty per cent, by conlure. Zinfandel, Riesling and Chasselas a full crop; There will be fifty per cent, more wine grapes this year than last year, but twenty-five per cent. less Muscats and Tokays. The county will produce 150,000 gallons of wine and 300 tons table grapes. Very little extension of vineyards, and what there has been is in table grapes.

### SAN JOAQUIN COUNTY.

Report of F. A. West, Stockton.

varieties will produce a full crop. This dryness does not prevent the grapes from year's crop will be double that of 1887. The swelling.

county will produce 400,000 gallons of wine and 550 tons of table grapes.

### AMADOR COUNTY.

Report of H. H. Hill, Plymonth.

No damage from frost this year. Last year's frost seems to have affected this year's crop about one per cent. Mission vines will produce a full crop. This year's crop about the same as last year. My vines produce on an average five tons per acre.

### MERCED COUNTY.

Report of G. E. Ladd, Merced.

No damage from frost or conlure; some damage from vine hopper and sun born Troussean, West's White Prolific, Verdalo. Mataro, Carignan, Blaue Elbling and Colombar a full crop. Zinfaudel, Charbone, Folle Blanche, Grenache, Muscat, Black Ferrara and Tokay a light crop.

There will be an increase in this year's erop over that of 1887. The county will produce 30,000 gallons of wine and 150 tons of table grapes.

#### FRESNO COUNTY.

Report of M. Denicke, Fresno.

No damage from frost; no damage from conlure to wine grapes, but some to Muscats. The more sulphur the less conlure. The vine hopper does some damage to Museats and wine varieties.

All varieties will produce a full crop. This year's crop will be somewhat larger than that of 1887. The county will produce 2,230,000 gallons of wine and 420,000 boxes of raisins. No wine grape vineyards have been planted hers for the past six. 1 have tried the wire screen hopper trap of different sizes with effect.

### SAN LUIS OBISPO COUNTY.

Report of Dr. W. W. Hays, San Miguel. No damage from frost or coulnre. All varietics will produce a full crop. This year's crop will be one-third more than that of 1887

Report of H. M. Maxwell, San Miguel. No damage from frost. All varieties will produce a full crop. This year's crop will be twenty-five per cent. greater than that of 1887. But little wine made as yet in

### SAN BERNARDING COUNTY.

Report of J. E. Cotter, Riverside.

No damage from frost and bot little damage by coulure. Muscats will produce a full crop. This year's erop will be twenty per cent, larger than that of 1887. The county will produce upwards of 225,000 boxes of raisins.

### SOLANO COUNTY.

Report of Dr. Alexander, Batavia.

No damage from frost or coulure. Muscat, Zinfandel and Tokay a full crop; Mission a light crop. This year's crop promises to be much heavier than that of 1887.

It is my opinion that unless a price of \$20 per ton can be maintained for grapes there will soon be no grape vines grown in Solnno county. Some sixty acrea have already been uprooted in this vicinity and unless winemakers and dealers can pay better prices for grapes than have been ruling for the past two years, they will soon have to raise their own grapes or go out of the business.

### YOLO CCUNTY.

Report of Webster Treat, Davisville.

No damage from frost or conlure, Musent Tokay and Emperor a full crop. This No damage from frost or condure. All year's crop will be double that of 1877 if

#### LAKE COUNTY.

Report of A. E. Kanst, Lakeport.

No damage from frost; fifteen per ceut. loss from vine hoppers. Zinfaudel, Sauvignon Vert and Burgandy a full crop; Riesling and Chasselas a light crop. This year's crop will be thirty-three and onethird per cent, greater than that of 1887. The county will produce 75,000 gallons of wine, and twent-five tons of table grapes.

Report of J. Reimers, Highlands.

Ne damage from frost or coulure; all varieties will produce a full crop. This year's crop is four times as large as that of

### PLACER COUNTY.

Report of E. W. Maslin, Loomis.

No damage from frost or conlure; small damage from vine hoppers. This year's crop will be thirty per cent, heavier than that of 1887.

Placer county is more distiguished for table grapes than for wine. The wine grapes are sold to Sacramento and Napa winemakers. About 50,000 gallons will be made in the county.

Report of M. Lobuer, Colfsx.

No damage from frost or coulure; some varieties slightly damaged by cold rain. Muscat, Rosa Peru, Tokay, Mission, Zinfaudel, Chasselas, Riesling a full crop: Purple Damascus a light crop. This year's crop will be about the same as that of 1857. Vines are looking healthy. No winery here vet. Mostly table grapes grown. No one as yet in the raisin business.

R-port of W. G. HUBLEY, Colfax.

No damage from frost this year, but the effect of the May frost of 1887 is apparent, five per cent. damage from coulure on Muscat and Purple Damasons, ten per cent. luss on Tokays and Rose Peru from black knot caused by May frost of 1887. Five per cent, loss on Tokaya by sunharn, caused by the vine-hopper destroying the lower leaves early in the aeason. Zinfandels, Black Morocco, and Mission a full crop.

Tokay, Muscat, Purple Damasons, Emperor and Rose Peru a light crop. This year's crop will be four times as much as that of 1887 owing to new vineyards coming into bearing. Vineyards planted to table and wine grapes in the proportion of thre. to two. The acreage planted to vines in more attention to orchards.

### CALAVERAS COUNTY.

Report of C. GABDELLA, Mokelumne Hill. No damage from frost. Twenty five per cent, damage from coulure on Mission and Chasselas; all foreign varieties a full crope This year's crop will be one-third more than that of 1887. The County will produce 300,000 gallons of wine, 100 tons of table grapes, and 600 boxes of raisina

### SUMMARY.

From the foregoing reports I am able to make the following estimates of the vine to care for all the issues. production that will be made this year in the different counties:

Napa	3,500,000
Sonoma	2,750,000
Alameda	
Contra Costa	250,080
Santa Clara	
Santa Cruz	300,000
Kan Jeaquin	4(81)(8)(1
Merced	30,000
Fresno	2,300,000
Los Angeles and South	3,500,000
Sacramento and North	
Other Counties	1,500,000
Total	20 930 boo l

Of this amount at least four to five million gallous will be distilled, leaving from other substances.

sixteen to seventeen million gallous of sweet and dry wines. The total production as given above may be lessened considerably if the present hot weather keeps up. A great many parties have signified their intention of drying their wine grapes. How much this will reduce the wine yield I am unable to say. The early ripening of the grapes will facilitate the drying of them and no doubt a great many car loads will be dried. The must-condensing machine at Geyserville, Sonoma County, will also be run again this year which will help to reduce the wine yield of Sonoma County.

From the reports received it will be seen that white wine grapes will be short, while red wine grapes will be a good crop, especially Zinfandels. Of table grapes. Muscats and Tokays will not be a heavy crop. The reports concerning the raisin production are not full, but from what were received I would place the raisin production at 1,000,-000 to 1,100,000 hoxes.

CLARENCE J. WETMORE, S cretary Viticultural Commission San Francis o, Ang. 7, 1888.

### PROBIBITIONISTS CHALLENGED.

EDITOR MERCHANT:- I should be glad to see a challenge issued to the total abstain ers, and a quiet, but strong discussion of the wine question involving the scientific, historic and social or scriptional aspects. think such a discussion would cause a large sale of the "Meachant" throughout all California and the States. I would gladly take part in it, but would prefer that my name should be a secret, writing as N.S.G.W. You have already given some first-rate articles from scientific and historical points of view, but to draw public attention, it is necessary to provoke oppositive and full and kindly discussion. I suggest the following challenge:

- 1. That wice has been in the past history of the world the mark of civilization and of godliness.
- 2. That "the absence" of wine in past history has been the mark of rapine, murder and anarchy.
- 3. That wine is necessary to the health of man's body.
- 4. That wine is necessary to the saving of man's soul.

Every person in the United States is hereby challenged to disprove either or all 1888 was small, owing to parties paying of the above theses. Such discussion to be confined to the columns of the MERCHANT. N. S. G. W.

> It would be as well to confer with Mr. Wetmore, whose first article I approve, and also to sketch out beforehand the grounds npon which these four theses rest so that there may be no hesitation or mistake in confounding the cuemies of wine.

> Dr. Shepperd of Santa Rosa, the Episcopal Minister there, in quite cuthusiastic ou these grounds and has already published on these points, but no doubt in our circle of friends you have some who are well able

I saw at the Central M. E. Church in San Francisco there was a lecture by a Prof. of Chemistry against alcohol, it was very desingenuous and mixed all the alcohols into confusion-the degrees of saturation of the earbon and the totally different character of the alcohols being purpos ly hidden. You want a good chemist to draw the distinctions of the alcohols and their utterly different effects on the human frame, especially when as in wine. Alcohol is a mere sub agent working with and through many

### BEET SUGAR IN NEW ZEALAND

The following article has been furnished to the Auckland Gazette by a gentleman who has given a large amount of attention to the subject :-

"Before any capital is invested in the growth of sugar-beets in New Zealand, or in providing plant for the manufacture of angar therefrom, it will be well to compare the conditions which prevail in this colony with those of Germany, and to see from this comparison what chance of success people who put their money in this enterprise would have.

"First, as to the land, there seems reason to believe that soil of sufficient richness to to be found in New Zealand, and for the purpose of calculation we can assume that such will be attainable in accessible localities, and that in one such district there will be enough farmers residing within a reasonable distance of the site for the factory to ensure the delivery of the beets at a moderate rate of carriage, merely remembering that for a factory to produce, say, 1500 tons sugar, there will be needed 3,000 acres of land on which heets can be grown. Now, on these assumptions, at what price can the beets be grown and delivered? In Germany, where the land is most beavily and scientifically manured, where the rotation both of crops and manures is compulsory on the growers (for instance, farm-yard mannie may only be used after the beet crop is taken off, and two crops of grain or other produce must follow that of the beet) the cost of the beets delivered at the factory is about 16s per ton, and the price paid up till 1886 was about 20s. A lower rate is given now, but in most cases the farmers have a share in the factory, and the price of their beets is determined by the general success of the campaign. When the bigher price ruled, the land was worth perhaps from £50 to £70 per acre, and the rent varied from £2 5s to £3 10s per acre. In New Zealand, on the other hand, such choice land could possibly be had for £10 to £15 per acre if thoroughly stamped and cleaned, or say from 12s to 20s per acre rent, and in this respect the farmers here would have an initial advantage. This would, however, soon disappear, for if we allow from the 16s taken as representing the cost in Germany 3s to 5s per ton for rent or interest, we have 11s to 13s as the expenditure on labor, seed and manure, etc. Now in Germany the laborers who tend the beet-field (to a large extent women) receive from 11/d to 2d per hour; in New Zealand such laborers would get in the shape of pay and keep from 4d to 6d per honr, and as mannre, seed, etc., are all much more expensive in this colony, the growth of beets at anything like the German price seems to be a sheer impossibility. But let us assume that beets can be delivered at the factory at 25s per tou, and see what will then be the cost of the sugar. "The working expenses of a factory in

Germany run from 7s per ton heets to a very much higher rate, and most of the factories have cheap fuel, while all have an ample labor force always available at a cost of 2d to 3d per hour. In New Zenland fuel will always be dear, and wages are not likely for some time to come to be less than 6d per hour (20s to 22s per week and 8s to 10s for board and lodgings) for angar factory work, so that the working expenses of any factory started in New Zealand would surely (even if full work were maintained) amount to 12s to 15s per ton bect, and the latter figure would be the nearest to the actual all purposes.

expenses. This is irrespective of any interest or provision for sinking fund, but includes the cost of maintaining the plant in running order, and the salaries of the taff, etc., during the idle senson. The yield of angar from the beets, if the product be made into an article saleable to the trade, will not exceed nine per cent, of tha weight of the beets, and will probably be much less, but take nine per cent, as the basis, or one ton sugar for 11 tons of beet, and the cost of this will be 25 plus 12 at 15 times 11 equals £20 7s, at £22 per ton. This is the nett cash out of pocket, and to it must be added the interest on the capital invested in the factory. Now in Germany, a factory to make 1500 tons sugar would cost over £40,000; in New Zealand the expenditure would be £60,000, and on this amount must be allowed 6 per cent, interest, and 4 per cent, for depreciation, which is about the rate set aside by the German fabricants. These charges amount to \$6000, or say £4 per ton on the sugar, and say one familiar with the prices now raling in New Zealand will be able to decide for himself whether, after thus providing for the capital sunk in the business, there will be any profits left to be divided among the share-

"In writing the foregoing we have thought it well to deal with broad facts, and not attempt to go into minute particulars, and we have not therefore referred to two points about beet cultivation which carry much weight in Germany. These are the use of the exhausted beets for cattle feeding, and the improvement in the retores from the land used for the beets by the intense culture required for this crop. It msy, however, now be said about the first of these that in New Zealand it is much cheaper to feed the stock on grass than on exhausted beets, and the present price of ment does not offer any inducement to start hand or stall feeding; and that as to the second, while wheat is selling at say 28s a quarter in England, the advantages of high cultivation are not so apparent as they would be if higher prices prevailed.

"In conclusion, we may auticipate any demands for proof of what has here been put forth, by saying that any person who donbts the correctness of the foregoing statements had better inquire about the best cultivation in the United States, and he will find that ther , with a Protective daty on sugar of £9 per ton, with cheaper capital and labor than are available in these colonies, the few attempts that have been made to acclimatize this industry have proved partial or complete failures, although money has been spent freely, and the climate is, we believe, better for the ripening of beets than that of New Zealand.

Moreover, the American refiners are a very wealthy and powerful body, and would surely have given strong support to the industry if it had appeared to them to have had any chance of snecess."

### Water in London.

The average daily supply of water delivered from the Thames to London consumers during last May was 80,338,932 gallons; from the Lea, 57,047,492 gallous; from springs and wells, 19,116,275 gallons; from ponds at Hampstead and Highgate, 2,023 gallons. The last is used for non-domestic purposes only. The daily total was, therefore, 156,531,722 gallons for a population aggregating 5,456,587, representing a daily consumption per head of 25 58 gallons for

#### THE VINE AND ITS FRUIT.

[ Continued from page 132.] In continuation of the subject in the Vineyardist, Dr. I. 11. McCarty says:

The grape vine is said to have grown so large in some instances, and of ao compact a fibra, as to have been employed in the manufacture of furniture. But this must have been to a very limited extent. It certainly never was cultivated as a wood simply; if so used it must have been merely ncidental, In all ages of the world and in all lands it has been grown for its fruit alone. It has furnished that very delicate article, the raisin. Raisins are nothing more nor less than dried grapes of certain choice varieties, and they have been in use for ages. As long ago as when the Israelities were emerging out of their bondage they used raisins. In the book of Nehehiah, 6th Chap., 3d verse, it is written of the Nazarite: "He shall separate himself from wine and strong drink, and shall drink no vinegar of wine, or vinegar of strong drink, neither shall be drink eny liquor of grapes, nor eat moist grapes, or dried," that is, raisins. They are named in the book of Samuel: "Then Abigail made haste, and took two hundred loaves, and two bottles of wine, and five sheep ready dressed, and five mensures of parched corn, and a hundred clusters of raisins, and two hundred cakes of figs, and laid them on asses." Raisins have been an article of commerce in France, Spain and Portugal, as well as in Asia Minor. The best varieties come to us from the provinces of Malaga, Valencia and Alicante in Spain. A apecies of raisin is also produced in the islands of the Grecian Archipelago, which are large seeded and dark colored. Many other sections of the globe export raisins to the markets of the world. The business is one of magnitude. This fruit, to the value of five million dellars a year, is imported into the British isles. Our own country imported from these foreign land in 1870 eleven thousand tons. The books tell us of the various modes of preparing them, but in as much as we cannot in this latitude go into the business, the subject may here be dismissed.

Wa have seen in these papers how universally the vine has been cultivated among the nations; and how much use has been made of its fruit in the manufacture of wine among both Jews and Gentiles. Nobody questions the fact that fermented wine was in use as a beverage in Greece. Rome, Egypt and Judea. The Bible is full of references to wine drinking, as well as to the sin of drunkeness caused thereby among the Jews. The practice of using atrong drink, with its sad consequences. was always condemned in unmeasured lan-

The jnice of the grape is called wine, no matter whether fermented or otherwise. The works "wine and strong drink" are frequently coupled together in the same aentence. So there must have been two sorta in use. The juice of the grape was expressed from the ripened clusters in varions ways; sometimes by simply squeezing the berries into the drinking cup with the naked hand, as in the case of the chief butler and Phareh. In other instances it was done by wrapping the berries in a cloth of loose texture and wringing out the juice. This is evidently alluded to by David in the 75th Psalm: "For in the hand of the Lord there is a cup, and the wine is red: it

wicked of the earth shall wring them out and drink them." But the general method was to use the wine press when the vintage was gathered and the crop was to be converted into wine. The ancient wine prese consisted of two receptacles. The one was large, in to which the fruit, fresh from the vines, was placed. Even here we are minutely informed by the prophet Jeremiah that in the grape harvest, the people carried the fruit in baskets. "Thus saith the Lord of hosts, "They shall thoroughly glean the remnant of Israel as a vine; turn back thy hand as a grape-gatherer into the baskets." Directly beneath this first receptacle was a second one, into which the juice ran, especially that which was pressed out by the natural weight of the mass of fruit. This ran through a strainer into the lower vnt, being the gleukos of the Greeks, mustnra of the Romans, and the "sweet wine" of the Jewa, sometimes called the "tear." The wine is referred to, in the book of Samuel: "And Eli said unto her, How long wilt thou be drunken? put away thy wine from thee, And Hannah answered and said, No, my Lerd, I am a woman of a sorrowful spirit: I have drunk neither wine nor strong drink, but have poured out my sonl before the Lord?' and also in the book of the Acts, where wa read in the Chap., and I3th verse. Others mocking said, "These men are full of new wine." When fermented this gleukos, that is, new wine, has a powerful intoxicant.

Among the Jewish people this was called "the first fruit of the vintage," and some of it was required to be presented to Jehovah as a thank offering. "Thou shalt not delay to offer the first of thy ripe fruits, and of thy liquors; the first-born of thy sons thou shalt give unto me." After this first dripping was gathered the work of "treadbegan This is also frequently reing" ferred to as a mode of wine making, and is sometimes used as a figure of speech.

"Which make oil within their walls, and tread their winepresses, and suffer thirst.'

"lu those days saw I in Judah some treading winepresses on the Sabbath; and bringing in sheaves, and lading asses; as also wine, grapes, and figs, and all manner of burdens, which they brought into Jerusaleam on the Sabbath day; and I testified against them in the day wherein they sold victuals."

The treading of the grapes in the vat generally left the legs and garments dyed red with the juice, which also is mentioned especially as a figure of the suffering and death of Christ. Issiah wrote:

"Who is this that cometh from Edem with dyed garment from Bozrah? this that is glorious in his apparel, traveling in the greatness of his strength? I that speak in righteousness, mighty to save.'

"Wherefore art thou red in thine apparel, and thy garments like him that treadeth in the winevat?"

[To be continued.]

### AUSTRALIAN WINE NOTES.

The vintage at Mr. T. Hardy's Bankside vineyards is finished, and has proved a very good one; the weather throughout having been exceptionably favorable, both for wine msking and fruit drying. The Shiraz grape during last month developed, owing to the fine weather, an extraordinary degree of saceharine. The yield of grapes in many of the vineyards purchased was double that of last year, while the price

over any former vintage; and under the supervision of Mr. G. B. Hardy the whole of the wine was perfectly fermented, and will all be fit for the English market. At M'Laren Vale, under the management of Mr. T. G. Kelly, some 40,000 gallons of wine were made, largely from grapes purchased from the small growers in that neighborhood. At Laughorne's Creek the yield of Mr. Hector's vineyard was purchased by Mr. Hardy, and made into wine for him by Mr. F. Potts, junior, and about 10,000 gallons will be the result. Lorimer', Woodside, about 3,000 gallons of superior light wines were made, and about 9,500 gallons at Morphett Vals wholly from purchased grapes. Altogether, about 140,-000 gallons will be this aeason's total-a very considerable advance over any former vintage. The raisin crop was a fairly good one, and the quality suferior to that of any former year both for size and color. The current crop was a light one, owing to the blossom not setting well and the ravages of the sparrows, which appear to be particularly fond of this variety of grape.

### SHIPPING GRAPES EAST.

Mr. A. J. Wiener is busily engaged in trying to so arrange matters that the small fruit growers in this city can take advantage of the fast time and low rates of freight given to eastern points on green fruits in ear load lots. It is well-known that the California fruit union is now running a fruit train from Sacramento to Chicago daily. This fruit is consigned to the union in Chicago and by them sold at auction. The railroad company, some time ago, issued a notice to all fruit growers stating that if any orchardist or vineyardist had a carlead of green fruit to go East, it would be taken in this train at the same rates paid by the union. The trouble has been that there are very few fruit men in the State who can furnish a carload of green fruit alone. The prices realized East for grapes, etc., are trebla the prices paid here, and by Mr. Weiner's plan all can take advantage of the Eastern market.

A meeting of the fruit growers and vinevardiets will be held in the Board of Trade rooms for the purpose of arranging matters so that a number of fruit growers will deliver their fruit in this city on the same day. In this way a carload of fruit can be collected and the car will then be taken on a passenger train to Sacramento, and there placed in the train for Chicago. When it arrives at its destination, the fruit can either be consigned to the union there to be sold at auction or delivered to private firms as the shippers may desire. Let every fruit grower and vineyardist attend the meeting Monday night.

### A New Sugar Cane.

For about 100 years, says the London Times, most of the sugar in the West Indies has been obtained from the Otahheite cane, originally brought from the Pacific Islands by Captain Bligh in His Majesty's ships in 1796. Latterly streuous efforts have been made to introduce new canes, in the hope that they would prove richer in yield of sugar. In one instance we learn that a cane introduced by the present assistant of Kew Gardena when in charge of the Botanical Gardens at Jamaica has supplanted the Ohaheite cane and proved most productive. A planter at St. Kitts says the new cane, which he has called the Lord there is a cup, and the wine is red: it double that of last year, while the price Jamaican, is a "marvelous cane." He is full of mixture; and he poureth out of paid for the fruit was the same. At Tintara adds that "it stands dry weather well and the same; but the dregs thereof, all the the yield gave an increase of 10,000 gallons is entirely superseding the Otaheita cane.

CAPT. I. N. Burritt, editor of the Wash. ington, D. C. Sunday Herald, who, at the time of the auti begus wine bill fight before Congress, proved one of the staunchest friends of the grape growers, still keeps alive the righteous claim of protection against adulteration of legitimate wine as an erticle of elimentation, while the producing community seems in lifferent to the causs. The shock received lately through influences contrary to the interests of California viticulture by the murder in Congress of tha Sweet Wine Bill, of course checks energy and hopefulness on the part of the viticulturista. In his influential paper Capt Barritt lately made the following remarks:

When Congress passed the bill taxing oleomargarine there were many who doubted the constitutional power to regulate, by means of the taxing power, adulterations of food products or frauds upon the public in the shape of compounds offered for sale under falsa pretenses, and, contrary to expectation, quite a large revenue arose from the tax. Now no one doubts the wisdom of the act, and the power to pass it is scarcely disputed. The act was not effectual to destroy the oleo interests, but it did make it possible for the public to know, with reasounble certainty, what they were buying. The constitutional power now being admitted, it is certainly the duty of Congress to provide against the sale of any adulterated feeda, wines, or liquors. But it ahenld go further, and prevent the importation of such articles, except under such guarantees as would enable the purchaser of foreign adulterated foods and wines to know exactly what he was buying. This is legislation for the benefit of the whole people that ought to be enacted at once.

### SOIL FOR GRAPES.

Do not be afraid of rich soil for grapevines. They are gross feeders and we have found that a liberal top dressing of wellrotted chip dirt, on naturally strong, rich prairie soil, has grown our finest crop of grapes. Grape vines are especially fond of animal refusa. If bones, heads or other butchers' offal, are buried two, three or four feet from a vine, which has been planted two or more years, and is in good condition, the roots will soon take possession. have always put this advice in practice by burying all small animals which die (and of which farmers have more or less every year), in our vineyerd, and our neighbors have always expressed surprise at the luxuriant growth of our vines, and crops of fruit .- Ex.

### INK TABLETS.

The demand for these or for ink powder is rather limited, though the form is extremely handy for carrying along on a jonrney, especially on routes where accommodations have to be mainly provided by the traveler himself. Two recipes for preparing auch tablets are here given:

1. Extract of legwood, 500 parts; alum, 10 parts; gum arabic, 10 parts; neutral chromate of potassinm, 1 part. Dissolva the salts in 500 parts of water, add the extract of logwood and gnm arabic and concentrate the mixture to the consistence of an extract. Then pour the mass out either into melds or into a flat bettomed dish and cut it in pieces of suitable size, which may be enclosed in hoxes or other receptacles.

2. Extract of logwood 100 parts; gum arabic, 10 parts; indigo carmine, 5 parts; neutral chromata of potassium, 1 part: glycerin, 10 parts; water, q. a. Proceed as in the preceding formula.

#### FURMENTATION IN FRESNO.

John H. Wheeler Esp.,

Chief Executive Viticaltural Officer.

DEAR SIR; - I have made studies upon fermentation and vinification the last three years in Fresno county, and as it might be very useful to the many, I have the pleasure to write the best mode I have employed and with success, for the making of a fine red dry wine, a little more of the Burgundy type than that called generally Claret. This method of fermentation never failed, and is not very difficult as you will read;

I must first give as a rule that the alcoholic (vinous) ferment shows itself from 60° F to 75° F. Above 75° F lactic ferment begins to appear. At 85° F it is full and taste its fruits, and over again 90° F all the series of other ferments begin to take possession of the mass of liquid and kill the first.

This rule is, in a few words, a very important one and ought to be in the head of all and every person intending to make wine and desirous of success-but it is generally lost sight of by the majority of the wine makers.

Come next the temperature of fermenting rooms, which is the next important point, In order to be always master of the mass, one must act upon it, that is to say upon the "grapes" one must rule fermentation at its starting point-when the grapes crushed are placed in the tank, and not when the must boils already.

Have the grapes picked as fresh as possible in the morning, do not let them be exposed in the full anu for all day, have them covered by some fresh leaves or any other mode, and then remember that as soon as the grapes are thrown into the tank it will be very short time before it rises in degrees, It is therefore important to have your grapes cooled to the 60° or 65° if you wish to have a good and steady fermentation. If the fermenting tank is at 77° F, with a prospect of getting higher by itself-keep a draft and obtain a temperature of 75° F

If in the shade the temperature, outside, is of 85 ° F and above, you must keep the fermenting room closed. Take care to wash your fermenting tank with fresh water just b fore placing the load in it - water at 60°F is the best, and see that the "must" is not over.

There is a very important point generally to be observed, it is to see that the "must' be always below 12° alcohol, and if it passes over that degree it must be reduced with fresh water, till reaching just below 12°, because the greater is the density the more delieate is the fermentation, the more it becomes difficult and one risks not to have it "pass through," In Fresno it is of daily occurrence, on account of heat and dryness of atmosphere. Now, in order to avoid a too prompt fermentation to set in, in the top and secondary fermentation, maintain the "lst" always submerged. It is a very easy way with perforated bottom. Then let fermentation set in; as soon as it will he well started at the top, draw out from the bottom and throw it over the top. That operation has the advantage to insure a normal progress of the alcoholic fermenta tion in the whole of the liquid in the tank, and if not made as described, the sleoholie fermentation not yet begun in the lower part of the tank, be terminated in the higher part of it and then would continue with a secondary fermentation, acetic or others. As you see I have not used much of the foulage and I have found that that process makes a jelly of the "must" and pre-

vent a great deal the carbonic gas to escape. But if one follows the rule I have just given to you, fermentation is over in eight days and in a beautiful condition.

After 'you take the wine "must" from the fermenting tank, place it in as small tanks as possible and in a cellar the same temperature as the fermenting room. The small tank helps the wine to clear and the second fermentation is generally over in about twenty days, then it can be drawn into large tanks of 2,000 or 3,000 gallous without any danger, and in a cellar of a higher temperature in order to mature it earlier. Wine made in this way is fine and will preserve well.

Yours truly.

CAPT. J. CH. DE ST. HUBERT, Fresno, August 4, 1888.

#### PREADWELL ON PROPERTION.

Quamanam vernm ridentum dicere, quid vetal? You need not always pull a long face when you want to tell the truth, so thought Horace and he was right. Wine was meant to cheer the heart of man and the heart of God, so Holy writ says, and wine makes people cheerful unless they should happen to be like the Prohibitionists enrsing the growers, cursing the makers and cursing the good gifts of God. A viticultural board without samples of wines must be like a plum pudding with the plums left out, and when the State cellar is established you could invite the ladies of the W. C. T. U. and Mr St. John to taste Californian nectar, so that they might be reformed and not class good wine with sour mash whiskey. I am afraid though, that these people are so full of eursing and bitterness, that it would happen like it did to a friend of mine. He met a Prohibitionist pouring out the risks of his wrath on wine, and said; "Charlie, I hope you don't go into your wife's dsiry." "Why's that," said Charlie, Oh! (said my friend) because your temper is bad enough to sour all the cream, and I fear there is enough bad temper in the outrageous Prohibitionists to sour a whole cellar of good wine.

After all those Prohibitionists are rather mean. You read all about the original Lord's supper. How several men had to go before hand into the city and order the roast lamb and the wine, and make ready a banquet for thirteen people. As it was spring time, the wino, even if young, must have been well fermented, and racked at least three times.

Nowadays you get an invitation from the Prohibitionist to attend the Lord's supper, but when you get there you don't see the roast lamb, nor even a banquet table made ready, but a lot of doleful looking people covering their faces and minching a wee bit of dry bread (no gravy mind you,) the size of the end of my thumb, and then a sip; just a sip of what? Blackberry juice, sweetened with glucose, and dosed with as much spirit as keeps down the fermentation and prevents it from becoming wine. Paul complains that the early church members drank so much wine that they got drunk at the Lord's table, but these blessed Prohibitionists never give a poor saint the chance.

To such a mockery of the real good home by social banquet of the Lord we have been reduced by Prohibition. Restore the original banquet with good wholesome champagne white or red wine, and the churches will not be so empty as they are.

One word of fatherly advice to the W. C. T. U. of America: There is in the last that ever greeted the eyes of an honest and very often the same person will drink man. It is the picture of the virtuous woman, the queen of home, whose price is far above rubies. Read there, " She plants a vineyard." Instead of raving against wine, let the women of America join them selves into a true W. C. T. U., that is to say " Wine Cherishing and Tasting Union," and drunkenness from that day will begin to die out in this union. Down with Prohibition.

### THE BRAPE CURE.

Referring to the virtue of the new grape cure the Farm and Vineyard says: Much interest has been excited in medical circles, and the public mind, for years past, in regard to the alleged curative qualities of the grape, and its affleacy in a large class of stubborn and chronic diseases. grape cure, as it is properly called, has been in vogue for a considerable length of time in France and Germany, and the method of treatment has been to let the patient eat all the ripe grapes daily that he or she desired in vintage time, and many remarkable cures are regarded as having anunally occurred.

The grape cure has become a well established fact in America as well as in Germany, and every day is developing new truths in support of its wonderful efficacy, The eminent Irving C. Ross, M. D., speakiug from personal experience, saya of it:

" Some years ago, on arriving at Cadiz, after a long voyage and the monotonous diet of a sailing ship, and my system being greatly reduced, I determined to try for a time a diet consisting almost exclusively of grapes. The result was rapid reestablishment of all the bodily fonctions, and a feeling of more than ordinary strength and agility. I was prompted while in San Francisco, Cal., to resort to the grape enre for the second time, the result being satisfactory. I recommended the cure to several persons who were much run down from over-work and bad diet, and I had the satis saction to see a rapid gain both in weight and appetite."

It having been sufficiently demonstrated that the methodical and rational use of the grape juice breaks up all habits of nutrition, rapidly reconstructs the blood, and exercises a salutary influence upon the nervous system, it follows as a rational sequence that the grape cure would be the natural and most efficacious remedy for many persons in our large cities who, in consequence of extreme heat and improperly cooked food, suffer from conjested livers and intestinal catarrh, and who delude themselves with the popular fallacy that malaria is the source of all their troubles. Overworked clerks and newspaper men, who keep late hours and live on boarding house fare, may derive from the vegetable milk of the luscious and inoffensive grape a rational means by which to re-establish those physiological conditions so essential to clear thought and a proper discharge of their wesrisome duties-and which is alone worth living,

For some years past a New York city firm has sold pure grapo juice at five cents a glass or 25 cents a bottle, that can be carried to invalids and old people at their homes. The business of these firm during the grape season has been simply immence As long as fresh grapes can be had, small hand presses upon the counter are used for expressing the juice, each person selecting his own grapes, if he chooses, from any of chapter of proverbs the loveliest picture five cents per glass for what he may drink, Mann, of 2022 Hillyer Place. the different varieties on hand, and paying

two or three glasses. At the close of the grape season they usually grind and press large quantities of grapes, principally Concords, the juice from which is filtered or strained and put away in barrels, in a temperature always below 40°, where it will remain fresh and sweet until grapes come again, as fermentation cannot take place in so low a temperature.

This is probably but the beginning of the use of "unfermented grape juice" in this country; and the demand for grapes for this purpose, and as a healthful heverage for the people in general, added to the immence quantity to be used in making untermented wine by evaporation, that will keep in its present state for years, in all climates, and can be shipped cheaply all over the world, will render the overproduction of grapes in the United States quite improbable, and tend to make grape growing not only rapidly progressive in quantity, but render the vocation premanent, prosperous and profitable.

#### GRAPE AND WINE CHAT.

To Pohndorff & Co., Washington:

You sent me a Malmsey from the island of Madeira, bottled in 1811-a sample of a generous, sweet wine that has been inprisoned in the bottle for seventy-seven years-bland and luscious to the palate. oily, sticky, not bright. Of course not: after very likely for more than two gener. ations not having been touched, decauting now will hardly result in obtaining in the receiving vessel a clear liquid. Its perfume is rich and lasting. Twenty-four hours after tasting the wine, the empty glass yet gives off its etherona fragrance. nothing decrepit in the wine. Balmy aweetness, full vinosity, perfect amalgam of it with the alcoholic show a good veteran wine

But on that jewel kept for such an abnormal period as is pretended, seventy-five years have been wasted. In 1813 it would have been what it is now, minus the now thoroughly intimate amalgam of its elements. Matured four or five years in the wood seventy-five years ago it would have been as pleasant, round and rich as it is now, or nearly so. Perhaps in its youth it was even more delicious.

Only by losing nitrogeneous and other matters, expelled through the pores of the wood and precipitated in the eask by the action of oxygen, wine (and distillates) matures. The action of nature in the wine inclosed in a bottle and deprived of the access of atmospheric air is beneficial as to a degree of mellowing it, but the precipitate which is sore to adhere to bottom and walls of the hottle has to be extracted to insure perfect keeping of the wine. Every five, or say ten years, according to the nature of a high-grade wine, the racking and rebottling it, as well as renewal of defective corks, is imperative. A grand dry red wine may reach its greatest perfection in a dozen years. It would be useless to force its existence for a longer period. But when a superior dry white wine-a Port, or Sherry, or Madeira is to be preserved over the half century, the rule of racking it periodically, and abo the renewing of the part taken away from the bottle, or the refreshing of the aged wine by the addition of an analogous wine of a younger violage, must not be neglected. The lack of care has not be neglected. The lack of care has caused many sad disappointments to the heirs of him who left them treasures of this POUNDORFF

Irvington, Cal., August, 1888

### WINES.

BY JODANN CADL LEUCHS.

Scharlachberg, near Bingen, produces white wines which command a good price; they do not, however, attain so high a figure as the choice Rheingaus, as they lack the strength and bouquet of the latter sert. In good years, fifteen hundred florins per barrel are paid for the very hest Scharlachberger wine.

Nierstein has be long famous for its wine, which is celebrated for its good and wholesome qualities. A great quantity of it is made, and the best Niersteiner fetches one thousand florins per pipe.

The wines of Bodenheim and Laubenheim are in general twenty per cent. lighter in quality than the above, and they are thus proportionately cheaper. There are some exceptions, however; nor is it surising that, throughout the genuine wine districts of the hine, some superior sorts should be found; and more especially will this be the case when once it becomes a general rule to make their wines only from choice and very ripe fruits, and to divest the berries of every particle of green stalk. Already has this method been practiced years past by the more intelligent winegrowers, and their success has set a good example, inasmuch as by adopting this plan the advantage is gained of its not being found necessary to lay up the wine in barrels for years in order to render it mild; but, on the contrary, it soon becomes fit for consumption, and, finding a speedy market, there is a quick return of the capitsl invested, which is not suffered to lie idle.

Formerly it was customary to draw the wine off into large hogsheads, but now they select their different kinds of grape for their severel sorts of wine, and draw it off into small-sized barrels.

The wines from the left bank of the Rhine possess, generally, tess body than those of the right, but they are finer in quality, contain more alcohol, and have a most excellent bouquet, Rheinhessen transports from Worms to Bingen several kinds of very good wine; e. y., in the year 1818, fifty thousand pipes; in 1819, ninety thousand half pipes.

We shall here enumerate the best wine districts, and describe the various methods of making wine therein, founded upon Brouner's system.

Karlebach. Here the wine is made in the same manner as at Hardt, with the difference only that the grapes are mashed with pounders instead of in the tread-tank with the feet; and in many instances the the wine-makers crush the fruit with rollers for the sake of expedition, as one man, in the same time, will crush with the rollers as much fruit as three men can mash with the pounders.

Worms produces the Liebfrauenmilch, and also those wines of somewhat lighter quelity-the Katerloch and Luguisland, These are the most celebrated wines. The wine-presses in use here are of small size.

The Liebfrauenmilch is an excellent wine, made from grapes which grow on the site of the very battle-field where, in the year 1686, Louis XIV. completed his murderous design-in the suburbs of Mayence. The best in quality of the wine is raised on the plantings which lie in contignity with the monastery of what is supposec to be the Liebfrau Order. In 1822 this wine brought fifteen hundred florins tation.

per pipe. Its superior qualities appear to he owing to the protection afforded to this particular site by the church building from the north and northwestly winds, also by the genial warmth produced by the shelter of its walls. The soil is red clay with gravel intermixed. The wine is fermented in the barrels, which are slightly covered. It is first drawn off the loes at Christmas time, and again in the following autumn.

Westhofen. Here then draw off the new wine twice, once in April and again before the next vintage.

Osthofen, Bechtheim, Dienheim, Oppenheim. At these places they draw off the wine three times in the year. They also train vines on trellis-work, but the wine, who rarely sell a single barrel, but they they yield is had, on account of the height of the fruit from the ground. The wine made from the fruit which is grown aloft in these arbors is worth only three hundred florins per barrel, while that which is raised on low rails will fetch five hundred

Nierstein has been already mention, Here the soil consists of red decayed slate elay. The site is very good, particularly that portion of it which faces the southern side of Krauzberg, called Klek. This clay soil imparts a high color to the wines much resembling those of the Scharlachberger, Nakenheim, Bodenheim, Laubenheim, Guntersheim, Petersberg, Ingelheim, Bingen, and their vicinities. The renowned Scharlachsberger grows on reddish slate clay.

Kreuzuach. Here the grapes are crushed partly with pounders, and partly in grinding-mills between two revolving rollers. The work is also done in trend-tanks whose bottoms are perforated with small holes. When the fermentation commences, a tube shaped like a bended leg is fitted into the bunghole perfectly air tight, the larger end being inserted therein, and the taper end planged a few inches deep into a vessel of water. Many people fill these vessels with must instead of water, and every two hoars empty their contents into a barrel, for the purpose of adding to the must therein the spirit which has been absorbed by the must in the external vessel. When the rapid effervescence subsides, the tubes are removed, and a bung is placed sideways over the vent; and when there is no longer any sound of effervescence emitted, the barrels are filled quite full, and the bung driven in tight. From this period the barrels continue to be replenished every fortnight until the first drawing-off takes place, which is at the end of February or the beginning of March; the barrels are then again refilled, and the operation is repeated at the stated intervals until the time of the second drawing off, which takes place a short time previous to the blossoming of the vines.

All Rhein wines are completely fermented, and are, therefore, a little tart. They are valued especially for the gayety and huoyancy of spirit which they impart by reason of the etherial rapidity with which they prevade the system more than any other wine; and while they exhilarate the frame, they do not molest the head. Age improves them more and more. Of all wines, their good qualities are the most difficult to counterfeit, though a wine very similar to the Rhenish can be manipulated from the French by the following recipe: Three parts sugar, one part cream of tartar, three parts good brandy, to which add of wine lees enough to create a good fermen-

To make Rheinwine artificially out of added by the use of cream of tartar, or, what is better, tartaric acid. The proportions of these ingredients will be as follows: Of scid, an excess; of saccharine matter, a minimum; and of wine lees, a sufficient quantity to induce thoroughly the fermentative process.

The most certain way of obtaining genuine wines is for the purchasers to pay a visit to the wine countries themselves; when there they will be sure to obtain the most genuine and excelent productions of the respective districts. All the best viutages are chiefly in the hands of owners, put their whole crops up at auction, or dispose of them in the gross by private sale to foreign wine-merchants.

The stranger, however, will every wher readily find an agent at hand, who know perfectly well every cellur in the place and its owner, together with his weak point and his private affairs. Through such as agent great bargains can be obtained of the choicest wines at a much cheaper rat and of a purer quality than can ever b procured from foreign wine-merchants Wine can also be purchased to great ad vantage of the wine-merchants themselve in the Rheingau, and the neighboring eities of Mayenee and Bingen. Moreover these dealers have also, in many respects. greater facilities of transport than any negotiator ln a foreign country can possibly command, by which it results that they can afford to sell at lower rates and in smaller quantities than any others; which latter is an advantage totally nnknown in Rheingau, where sales are effected only at wholesale in entire bogsheads, each of which contains from 1300 to 1400 bottles of Rheingau measure, or 1176 litres.

In Mayence the wive measure is as fellows, viz; the ohm contains 20 quarters; the barrel, 8 ohms, or 160 quarters; the ohm, 180 Frankfort bottles. The measure contains 94 cubic inches French; 100 meas nres-1601/2 Berlin quarts. The ohm contains 140, the barrel 1050 litres, French measure.

### FRANCONIAN WINES.

The Franconian wines in Bavaria, es pecially those of Wertheim, Warzburg, Kitxingen, Marktbreit, Marksteft, and Ochsenfurt, are similar to the Rhine wines. hut of lighter and poorer quality, less acid, and in some respects more wholesome. The best kind of this wine is that styled "Leistenwine;" so named from a place on Frauenberg, near Warzburg, and it is grown on a plot of about sixty morgens. This wine, when of a certain age, is superior to the other German wines, and perhaps to all other kinds, from its more pleasant flavor, its spirit, bonquet, ane its salubrious qualities. Next in order is the "Steinwine," which is raised in Steinberg, near Wurzberg, on a plot of about 490 morgens, 1t is more fiery than the former kind, but is never so pulatable nor so fine flavored, being often of a hot and alcoholic nature. There is a third sort of this wine, called the Calmuth. It derives its name from a mountain ridge which lies between Lengfurth and Homberg, belonging chiefly to the Duke of Lowenstein Wertheim. The Schalsberger wine is also much appreciated.

The Wurzburger and Werthheimer wines are the two principal kinds of Franconian wine which are known extensively in com-

The Wurzburger is generally raised near

Wurzburg, Kitzingen, Marksteft, Marktsugar or fruit, much acid matter must be breit, etc. It is a light wine, of a yellow color, and of a poorer quality than the Rhine wine, possessing greater acidity, and is therefore not so pleasant to the taste, and is even inferior to the Werthheimer. When the wine is intended for the Saxony market it is generally colored of a darker hue than natural by means of burnt sugar.

The Werthheimer wine is raised on the mountain sides on the right shore of the River Main. The vineyards commence at the villiage of Urphar, and extend to Hasloch. Next to the Stein, Leisten, and the Calmuth wines, this sort is considered the best of the Franconian wines. The most superior in quality are raised opposite to he cities of Werthheim, Remberg, Kuff Itein, and Wetterburg. These regions lie ntirely open to the sun from his rising to is setting, and the soil itself is of the very est of its kind, called Liber erde ( Liverarth"). The plantations are generally set out with "white grapes," and the vines of he finest species, like the kindred sorts of he Riesling, Œsterreicher, and Eiblinger.

Of all the Franconia wines, the Werthreimer most resembles genuine Rhine wine; n flavor they are alike, and, if not so flery, vet they are somewhat sweeter and more salutable. Many prefer this wine, as more vholesome than the Rhine wine; and it is esorted to medicinally in hemorrhoidal effections.

On account of the eminent qualities of these wines, we will devide them into three classes, viz.: 1. The Remberger and Wetterburger: 2. The Kaffelsteiner ou Sand; 3. The Haslocher. The last named is more pleasant to drink than either of the others, because it sooner attains its maturity in the barrel, but the two former are preterable for long keeping.

The Werthheimer wines, on account of the rich soil, are heavy, and their essential qualities become developed only in the course of six or eight years; therefore they are drawn off three times during the first year; first, in Carnival time: secondly, near St. Jonn's day; and, thirdly, in autumn. In the second year they are only drawn off twice, and in the third and fourth years only once; which depends upon whether the wine is the produce of a good season or a middling one, and whether it is raised in a richer or poorer soil. If kept in good cellars and good barrels, the old wines can be preserved a long time without being drawn off; but the barrels must be refilled regularly. Like the Rhine wines, they are improved by age. A genuine Werthheimer wine is readily distingnished by its richness, and its glow in the mouth without biting the tongue; by its pleasant bouquet; and by the circumstance that, if it be drank in excess, it will not sour the stomach

### Electricity and Wine.

Recent experience in Italy gives some facts which prove conclusively that a weak but continuous current of electricity through wine causes a deposit of albuminous substances, diminishes slightly the amount of alcohol, which latter is accounted for hy increase of acetic acid. It gives to the wine the bonquet which is otherwise only acquired by age, and without doubt aids the keeping qualities of the wine. There is a hope expressed that in time there may be a method found by which sterilizs. tion will be accomplished by electricity,

Subscribe for the MERCHANT,

### THE SCIPPERSONG GRAPE.

Many of the grape growing readers of the MERCHANT have heard much of the amons Scupperrong grape of the South, vithout even having seen it, or read any tescription of this widely cultivated and sighly prized wonder of South Carolina, teorgia, Florida, Alahama, Mississippi, and the southern sections of North Carolins, firginia, Tennessee and Arkansas, As a natter of interest and curiosity, and for general information, we therefore take the ollowing notes on this variety from a recent sane of the Vineyardist.

The Scuppernong grape was discovered y the colony of Sir Walter Ruleigh, on the sland of Roanoke, North Carolina; and he original vine that first attracted the ttention of the new settlers, over 309 years igo, is said to still exist there, as a living proof of the great age attained by the native American grape. In appearance, wood, ruit and habit, it is entirely distinct from ill other varieties, or "unique," as one inthority says, and who adds: "There is a resemblance between the V. Vinifera, Labrusca, Estivalis, Cordifolia; they will all intermingle, producing hybrids, but pope of them can ever be crossed with the V. Rotundifolia, which blooms two months later than either of the foregoing varieties. The odor of the Scuppernong when ripening is delicious, and entirely distinct from the Fox grape family." The growth of the vine, or rather the space over which its branches extend in a series of years, is almost fabulous. The bark of the Scuppernong is smooth, of a grayish-ashy color, variegated with many small, dot-like specks of lighter hue; the wood is hard, closetextured, firm; the roots white or creamy The leaves, before dropping in antumn, become of a brilliant yellow.

The people of the South are devoted to this grape as are the people of the North to the widely grown and faithful Coucord, and defend it enthusiastically against all criticism, calling it "A Droma Gift," as the vine takes care of itself; does not require and will not suffer pruning; bears abundantly and has no diseases.

Cone ruing it, P. J. Berckmans, of Georgia, says: "I could not say too much in praise of the Scupperaong as a wine grape. It is one of those things that never fail, Of course I do not compare it with the Delaware and other fine flavored grapes; but the question is-where, where shall we find a grape that will give us a profit? We have it in the Scuppernong. It cannot be grown as far north as Norfolk." And it is thus indorsed by J. H. Carleton of El Dorado, Ark .: "The fruit is so healthy that it has never been known to make any one sick, unless he swallows the halls and skins, which are very indigestible. I made some Scuppernong wine last year with very little augar (114 lbs. to the gallon must), and although the grapes were not near so ripe as they should have been, it has a fine body. It is called by some the 'lazy man's grapa,' I admit the charge, and prize it more on that account."

It is a little remarkable that the brnches or clusters consist usually of only from six to nius (rarely more than the last number) very thick-skinned pulpy berries. These ripen in August and September, not all at the same time, but fall off successively, when ripe, by shaking the vine, and they are thus gathered from the ground. Color yellowish, somewhat bronzed when fully ripe. The pulp is sweet, juicy, vinous, with a musky scent and flavor—a delicate

perfume, agreeable to some tastes, repuguant to others. For wine purposes the Scuppernong has its warm advocates among American grape growers, as will be seen by the following, from a letter of S. I. Matthews of Monticello, Ark., written for the Bushburg catalogue:

"The Scuppernong makes a splendid white wine; its fruit, though ordinarily deficient in sugar, is very sweet to the taste, owing to its having but very little acid. The saccharine deficiency may also be accounted for, in a measure, by the fact that this grape has been hitherto, for the most purt, grown upon arbors, a plan of training that more fictually than any other excludes the sunlight and heat from the fruit, which it is the practice to gather by shaking down from the vines, whereby a considerable proportion of but partially ripe froit is obtained. And yet, according to some tests, the Scupp rnong has registered 88 degrees on the Occhsle) must scale, which would give 9 per cent. of alcohol.

When it shall be planted on dry south hill sides instead of low moist bottoms; when it shall be trained on trellises, where the sun-heat, both direct and reflected from the ground, shall bathe the fruit and foliage instead of upon tall unbrageous arbors through which the suns rays can scarcely penetrate; and when only the perfectly ripe fruit shall be carefully hand-picked instead of being rudely shaken and all berries that will fall gathered and pressed together,

there will be little, if any, lack of sugar. Schppernong is emphatically the grape for the South. Its juice is capable of being converted into the fluest of Muscatelle sweet wines, or into superior light dry wines."

These grapes, which, as before stated, ripen in part as early as August, should not make their appearance in all our village, as well as eity markets, before our early varieties are fit for table uses, the same as do sometimes vegetables, strawberries, peaches, etc., so that our people may become practically well acquainted with them and not have to be contented with a description, which, though it may be interesting, is nevertheless tusteless and flavorless.

### Grafting Grape Vines.

On this subject the Fresno Expositor of recent date has a long editorial, giving the results of some experiments which sum up as follows:

First—The grafting was a success as nearly every graft grew and that, to all appearances, thriftily, the first year.

Second That the grafts blossom well enough, but the grapes set badly, and those that do set, do not grow to more than half the size they should.

And, finally, that the "failure of the Muscat to assimilate itself with other stalks will in the future confine all Muscat vine yards to irrigated districts, where the phylloxera remedy is always at haud."

### CIVIL APPROPRIATION BILL.

Among the items of Pacific Coast interest inserted in the bill as amendments to the House bill were the following: \$100,000 for the completion of the public building at Los Angeles, Cal.; \$1271 to reimbursa Portland, Or., for its assessment for Custom house pavements; \$30,000 for a light station at Point Loma, Cal., lower down the cliffs; \$25,000 for lights and log signals at Ballast Point, San Diego Bay, Cal.; \$50,000 for a light house at the mouth of Umpqua river, Oregon; \$15,000 for the purchase of a wharf at Astoria, Or.; \$1,800 for superintendent of the life-saving stations in Washington Ty., Oregon and California. An expenditure of \$7535 is made for previous appropriations, authorized for repairs to the Point Reyes Light Station, Cal., Sacramento and San Joaquin rivers, Cal., and Paget Sound, Wash., are included in the appropriation for lighting rivers; \$5,000 for the hydrography of the Coast of California; \$8,000 for the continuation of tha triangulation in the Southern California, \$2,000 for the continuation of the survey of San Francisco bay; \$7,000 for the sorvey of the coast of Oregon; \$9 000 for the survey of the coast of Washington Territory; \$500 for the investigation of dangers to East Gulf and the Pacific Coast; \$1200 for magnetic observations at Los Angeles; \$2,500 for continuing observations on the Pacific Coast. The Pacific Coast is included in the appropriation of \$20,000 for an inquiry into the decrease of fish.

### EAST BOUND THROUGH FREIGHT.

Forwarded by the Southern Pacific Co., July, 1888.

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,	Articles.	SAN FRANCISCO	OAKLAND.	Los Angeles.	COLTON.	SAGRAMENTO.	SAN JOSE.	STOCKTON.	MAR TEVILLE.
. 1	Boiler Compound						*******		
1	Beans	67,160			*******	******			*******
0	Books and Stationery	9,740	5,030		*******			*******	
a l	Boray	121,050	71,560		******	*****	111, 232	22,570	
``	Brandy	21,000 '		4,100	420	31,660	4,990		22,750
i -	Canned Goods	3,768,930	90,440		20,500	363,910	1,006,400		22,750
1	China Merchandise	118,730				********	** *****		
" [	Chocolate	5,940							
e	Cigara	5,570				*****			
. 1	Clothing, California Manufactured	72,420				*********			*******
}-	Coffee, Green	10,820		********		*******	*****		********
	Drugs and Herbs	16,760		*** *****	******			********	*****
	Dry Goods	1.0,350	*****	122,350		20,000	*****		
r-	Empty Packages	51,740	******	93,660	120,400	181,310	72,446		£3,060
n l	Fruit, Dried.	21,500		*********	320,100	9,277,960	389,950		41,000
"	· Green Deciduous				4111111111				
à.	Citie and State of the Control of th	6,770		******					
1	Glue	23,770	22,980						
1-	Hair		*** *****						
1-	Haniwate								
	Hules	79,710		61,100		43,100			
10	Honey	1		31,650	22,020				
a	Hops	20,790		*******		100,590			
- 1	Horses						111.5		
'e	Leather	193,490				11,340	23,860		****
'n	41 Scrap					*********		1 - 1	******
	Lumber	26,500				26,500			******
ıs	Machinery					1001110		*******	********
	Malt			*****		22,410			******
0,	Merchandise, Asiatic (In bond)		******		*****		******	******	
18	Mohair	1 22.000	41						******
	Mustard Seed	51,110			********				
N. p	Nuts	108,150	******	*** ****			40 14		
h.	Oil Whale	206,660				255,050		*** * *	
,	Unions	95,050				2. 0,0			
16	Ores	1,375,030		675,340		2,536,160			111,080
la.	Potatoes	1,010,000	20,510			69,320			
	Powder							*****	******
кl	Kaisius				20,000				*******
Эť	Rice			*******					
~	Salmon, Cannel								
16	" Pickled	69,380							
* A	Seed								
26	Shingles	182,540			*******	111111			
it	Silk	146,570					*** * * * * * * * * * * * * * * * * * *		1 1111
	Silk Goods	24,310					*** ****		*****
	Skins and Purs	4,790	4			1.1.1.1.1			
ев	Sagar	7,971,640					***** 1		*****
	Tea	1,228,510		4 * * * * * * * * * *	******			****	
1 X	Tobacco leaf	514,520				127,200			
r)	Vegetables			******		121,200			
- 1	Whalehone	2.509,600	1,480	345,320	1,150	518,350	186,000	26,690	
80	Wool, Grease	707,120		14,060		301,050	9,009		
ьt	" Pulled	33,890		14,470		104,830			
14.5	" Scoured.								
У.	Woolen Goods	35,090							
. 3	Miscellaneous		21,530	37,410	5,370	46,470	43 (154)	5,800	3,650
or	Totals,	(58,980)	280,530	1,418,020	160,890	18,991,210	1,730,730	58,150	221,540

Recapitulation.

San Francisco, Oakland, Los Angeles, Sacramento, San Jose, Stockton, Marriville, Colton, Grand Total, 21,558,985 239,530 1,418,020 13,994,240 1,738,730 55,150 221,540 169,800 59,801,080



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FRIDAY.....AUGUST 17, 1888

### FOR SALE.

### A Wine Press

-APPLY AT-

Office of "S, F, MERCHANT."

The subject of much discussion among grape-growers at present, is the advisability of turning their wine grape-vines into raisin growing ones. In order to have the benefit of recent experiments in grafting, for reference and for instruction of those desirons of attempting the change, Mr. Wheeler, Chief Excentive Officer of the State Board of Viticulture, has issued the following circular, addressed to the raisin growers of Fresno, Volo and other places where raisins are made.

During the next Spring, many grapegrowers who in the past, have cultivated grapes for wine-making, will graft their vines into muscats for raisin-making purposes. From those who will make this change there have come to me numerous inquiries as to the suitability of ordinary stocks for the purpose. The experiences of the past on the subject are somewhat conflicting, but knowing there have been trials enough already made with this grafting to determine its value, if the results were but known, I am endeavoring to learn them for the instruction of the public. Believing you may be able to assist with your knowledge and experience, I have taken the liberty of addressing to you the following questions, which you will please answer by mail at your earliest convenience.

First—Have you ever grafted muscats into roots of other varieties?

Second-When was the grafting done?

Third—About what percentage of the seions grew?

Fourth—Do they appear as healthy as muscats on their own roots?

Fifth—Does the fruit set well and ripen equal to muscats on their own roots?

Sixth—Would your experience lead you to advise others to employ this method?

Remarks—If unable to answer these questions from your own experience, will you kindly note here whatever information you may have from others regarding the success of grafting muscats on to other stocks.

Bonfont's foreign vineyard reports are as follows:—In the viciuity of Bordeaux, since our last report the weather has been stormy most of the time and wet so that an active war will have to be carried on to rid the vineyards of the many cryptogamic diseases bred by the moisture impregnating the soil. Our wine growers will not fail to do so; they have indeed been applying preventive treatment all along during the intervals of dry weather we have had since May. Trade has meanwhile been comparatively quiet, Following are the sales brought to my notice:

In Champagne, despite the incressant rains, the mildew has disturbed vineyardists but little, the preventive treatment having been general and effective. The quality will be good but yield light.

In Algeria, the weather has been all that could be wished for; some rain, usually rare in Italy, was welcome. The vintage will be abundant and of good quality.

In Cognac, early grapes have suffered least from the untoward weather, while the vines blossoming late, produce hardly anything.

Vineyards in Hungary have suffered somewhat from the abnormal and sudden changes of weather which have so far characterized the current month. During the early part of July, cyclones swept portions of the country, notably the Werschetz region, and since then heavy rains have prevailed flooding the lowlands and carrying away valuable soil from the vineyards occupying the slopes of hills.

There has been a widespread dropping of grapes in the northern wine districts of Italy so far this mouth in consequence of the almost uninterrupted heavy rains. In Piedmont and Lombardy, hailstones aiding we hear half the vintage has been lost in this manner. As for Italy generally, the mildew has made its appearance everywhere, doing more damage than in former years. The usual treatment has been applied. The Phylloxera has made its appearance for the first time in Tuscany, in the island of Elba, in the province of Syracuse, and at Pitigliano, in the province of Grosetto.

In Portugal the vines have so far been doing remarkably well, taken as a whole; the formation of grapes has been perfect, with a promise of abundance; it is therefore to be hoped that thunderstormes and hail-showers or two much rain may not interfere. So far there has been no general complaint of excess of moisture, but the usual vine diseases, the phylloxera, mildew, anthracnosis and pyralis have appeared in some localities.

THE FIERY cross is being swiftly borne over the mountains and through the valleys of the State, and in response to the signal the vinyardists are rallying in the common cause. During the past fortnight meetings have been held at all the centers of the industry throughout the interior, and ways and means have been discussed for selfprotection. The grower of the grape no longer proposes to rest content to see his crop rot upon the vines, ar be sacrificed at figures which sither mean debt or starvation, or both. The lack of united action which has heretofore borne heavily on the poorer classes engaged in the business. The rich proprietor could store his product and market it as opportunity offered, while his neighbor had to submit to ring rule or be ruised. The difference between classes, in point of trade, is stirkingly illustrated in the following excerpt from the Independent Calistogian:

"Within the past few days a wine maker of means in Napa Valley finished shipping 10,000 gallons of 1886 white wine to one of the big firms in San Francisco who can pay small makers only 9 or 10 cents for 1887 wine, and he received 35 cents per gallon, eash in hand; and they were very anxious to get more at the same rate. This is a fact, and it shows the advantage that a man ot means has over the poor wine growerone who cannot hold his wine till he can get his price. Another Napa Valley wine grower very recently disposed of a quantity nf 1886 white wine at 30 cents per gallon. Wive makers in the vicinity of St. Helena will not offer tess than \$12 per ton for grapes other than Mission and Malvoisie; the price may be higher. But wine makers are not talking publicly about any prices that they may be willing to pay. Growers down there pretend to ask \$18 to \$20 per ton; but it is the wine makers' prices generally that take the grapes. Or, in other words, in such transactions the short pole instead of the long one gets the persimmon.

If individual benefits are to have preference to the common weal of the many struggling to build up an important industry, as in the instances quoted, it is not difficult to predict the final outcome. Some hope is extended at present that this nufortunate condition of affairs will be obliterated by the adoption of a more conservative system of business. The determination to derive a profit out of the crup, if not from wine, by some new departure in trade is a step in the right direction. Dried grapes, raisins, vinegar and condensed must, all offer an avenue for escape from prices based on wine at 9 cents per gallon.

When the suggestion was first made to give our boys a chance in the vineyards, a howl went up as usual from the pessimist. who feels himself personally ontraged by the innovation. The proposed wages of \$1.00 per day, was considered extravagantly high, in comparison with the \$1.10 paid the Mongolian serf, who boards himself, especially when the difference in the amount of labor in favor of the latter was taken into account. It is pleasant, however, to note that the experiment made at Vina, under the progressive management of Mr. H. W. McIntyre, has turned out a complete success. The boys work well and have con\_ ducted themselves so satisfactorily, that more will be engaged immediately. As Mr. McIntyre says, it is necessary to understand boys, to be able to handle them. An old head cannot be put on young shoulders, and a certain amount of allowance must be made for what may be termed capers. The manager at Vina, cvidently does not forget that he was a boy himself, and knows the way to get work done without tightening the rein, further than to control. Thoresalt of his experience will doubtless encourage other grape-growers to take up the good work to the advantage of the youngsters and themselves. It may give hundreds of willing boys an impetus, which will benefit them through life, by opening up new ideas coupled with some other object in existence, than loafing around street corners smoking villainons cigarettes. Any hoy who is willing to pack his blankets and start for the country to labor in the vineyards, has got the right stuff in him, and should be encouraged.

THE EXPORTS of Sherry to all parts of the world from Jerez, during the year 1887, are computed at 45,000,000 gallons.

The letter received at the State Board of Viticulture, published in this issue of the Merchant, from a San Francisco wine-dealer who is studying the wine production in Europe, states that California wine, which begins to lose its virtue after a storage of three years in this country, continues to improve in Belgium after a storage of many years. He does not know how to account for this unless it is caused by climatic influ-

President Wetmore says it lies wholly in the system of storage. The cellars there are constructed in a manner far superior to anything in California. The cellars of Belgium sink far into the ground, and the wine is stored for many years where the stightest draught of air cannot reach it.

"The philosophy of this," said Mr. Wetmore, "the Californian has not yet come to understand. The cellars here are usually constructed in such a manner as to allow a greater or less degree of ventilation to pass among the casks. It is a mistake. The air absorbs the best ingredient of the volatile decholic substance, leaving the watery substance entire, and works a change in the attree process of fermentation that tends to veaken the virtue of the wine.

"Especially is this true of the lighter or lryer wines. In this respect B lgium is far thead of us, and, until the California prolucer learns how to properly store his vintuge, he will continue to lose a proportionate amount of dollars, and our wines will never be able to successfully complete in foreign countries with the productions of Belgium and France."

Mr. George West, the well known wine grower of Stockton, reports that the vintage has already commenced at Minturn, and that the prices given for grapes were very low, too low to quote. "This will be the hardest year the wine growers in this State will ever know, "said Mr. West," and I think that it will be a useful lesson to them. although it will entail many hardships. The crop in our section will be about the same as last year, and the Superintendent of Senator Standford's ranch, Mr. McIntyre, told me that they would lose half of their Zinfandel crop by sunburn, and I know from my personal observation that the crap in other counties will be very small, although the Santa Clara county people say that they will have 500,000 gallons in excess of last year; but Santa Clara is not the whole State, and I promise that the whole crop will not exceed that of last year, or equal it, by a large margin."

Mr. N. F. Degouy, a well-known wine man of long experience in California, has inaugurated an enterprise of much importance to the wine growers of California, Having obtained from the Government of Mexico a concession and the exclusive right to introduce in the territory of the Republic of Mexico, free of duty, all the foreign gonds and raw materials necessary for the manufacture of wine brandies, liquors, etc. and the introduction of said products into all the States of the Republic, he proposes to enter into negotiations with producers of raisins, dried fruit and condensed must, for a supply of these commodities. He has established at Eusenada, in Lower California, with distilling and fermentation apparatus enclosed in a fire-proof building.

The advantage of such an industry will be appreciated, when the high duty which is now paid on imported wines and brandies is emsidered. The enterprise is one which promises to be exceedingly incrative.

### Wine Notes from Europe.

John H. Wheeler, Esq.,

Chief Executive Viticultural Officer.

DEAR SIS: In the S. F. MERCHANT of Jane 22nd ree ived a few weeks ago, I read a very interesting report by Arpad Haraszthy, in which one passage struck me particularly It is the one where he speaks of the importance of gathering reliable facts concerning the requirements and demands of the wine markets of the world.

As you remember probably, I left San Francisco about three months ago to visit the principal wine markets and to complete my education as wine maker by observing the methods employed elsewhere. Among the things I see, a few perhaps may be of int rest to you and the viticultural interests of California, and although my trip was intended for my own benefit only, I should be highly pleased if it could give the least valuable information to my adopted home.

In my trip through the East ru cities. I did not spend rinch time to study the possibilities of increasing our sales there, as those houses are in the hands of larger houses. Still it afforded me considerable pleasure to notice that the mere fact of my coming from the Golden State, produced at once an inquiry about our native wines.

Europ : interested me a great deal more as that field is left as yet almost an xploded. I commenced in Holland where only little wine is druck, and only on State occasions when they use the very best. The Dutch are very conservative, and the introduction of a new article with them would offer many difficulties. Belgium seems to offer points of considerable more interest to as. There is the hand of the true wine c llars, where many men tak more pride in their cellars than in most other things; where cellars are transferred by heirloom, where it comes as part of the dowry of a bride. There they drink wine, good wine, and know how to drink it. Cellars (of private parties) worth frances 25,000 are not scarce, and I have seen the anction sale of a batchelor which produced over 25,000 francs for wine bring people from all ov r the country. In the flemish part of Belgium they drink perhaps more beer, hence the people are heavier, slower, but the other half, the Wallars as they are called, take more after the French and wine is drunk every day. Not appreciated for its label, for as they always bny by the cask there is governally no label, but for its merit alone. And this is the reason why some of the California products I sent succeeded there so well. Bargundy is the wine they prefer, and to please them we would be obliged to send them heavy wines with good keeping qualities. During the whole mouth I spent going round the small interior cities of that country, I never drank a bottle under ten years of age except those I sent myself from California three years ago, and the latter were pronounced by everybody very good, but altogether too young.

To my great surprise, wines, which in my cellar at San Francisco, have attained. after three years in wood, their fullest development, and must be bottled or else loose some of their qualities, keep improving here a good deal long renotwithstanding a long sea voyage. Why, identically the same wine, coming out of the same puncheon, gives me three times more pleasura in Antwerp than it does in San Francisco. Must this be attributed to climatic influences? In that case we are very unfortunate, for though making good wine, we can not keep

then we shall be able to learn what we require. A fact, however, strikes me in all the cellars I have visited the moisture, the closeness, the dampaess that prevails, Every where they are kept elesu, no foul odor, but the propriet r points with pride to an inch of black moss covering barrels, walls and everything. And the old r th wines, the deeper the c llar goes down in the ground, in perfect darkness, with so close an atmosph re that the capille hardly seems to burn. And beyond everyting are a few cells walled over, where the Bargondies, of especially good years, lay buried beyond their masonry. These are exceptional wines, and to be sure that they shad be left undisturbed, that no change of tem perature, no jurring, no sampling will occur they are the s buried for many, many years. In so close a room evap ration is almost insensible. I have been told by the French that these choice wines for Belgium are always forfeited with the very best and oldest grape brandy to be had, and this treatment having cleared them sufficiently. they can be left without any more racking The bottle department is equally well cared for, Bordeaux being kept in the upper part, Burgundies nearer to the grennd, white wines in a cooler and not quite so dark a

To introduce our win s in Belgiam we ought to do as other wine producing countries have done these few last years. The Spanish have their bod gas, the Italians a garden, the Greeks, Portuges , Algerians, Hungarians, in fact all have their place for degustation, where they sell exclusively their native wines. It can be bought by the glass and is served in rooms and by people dressed after the fashion of the country whence they come. Everything around you, pictures, furniture, newspapers. dresses, r-calls the country of the wine you drink and sends to increase your pleasur in drinking it. These places have met with a great success, and by making th wines known have brought forth large orders. I have no doubt tot an American bar, with good wines, attractively arranged would produce very good results if some proprietor was hold enough to make the venture. Of course you cannot expect prople to buy our so far unknown wines, and then wait six months b fore they arrive, If we want to sell we necessarily must have

From Belgium I went to Paris, and shall remain here till the vintage season next month, when I intend to make a trip through the diff-rent counties or districts

Here the wine question changes totally, everybody drinks wine, and a good deal of it. It is no more a matter of quality, but of price - the cheaper your wine, the more you will sell of it. Knowing the approximative value of win s, I was amazed to see the retailer selling at 10, 12 or 16 cents a quart bottle. Inquiries made amongst merchants brought forth no other answer than the secrets of the trade. Still wanted to know and consequently went to the B rev warehouses and asked for work as a c mmon laborer in one of the largest cellars f saw. After some enquiry about my capabilities to fill that place, I was engaged at 5 francs a day from 6 A. M. to 6,30 P. M. and began the next morning. I have been there now one month, and c rtunly what I have seen repays me amply for the sterifice I made and the blisters I got on my hands,

Berey was formerly a little village just on the outside of Paris, on the borders of the

it. Is it in the treatment? I have so, for liver S ine, where wine merchants | d t | bring their goods and sell them on the speak from actual experience, says that the wharfs to avoid paying the ordroi. Little 1 of et my ling of the lat r varieties of by little Paris increased and Bercy I and grap a can be usur d, in god's ason, by itself engulfed in the large city. The G vrument bought the park, built a few br k cellars, made of the whole place a b a l 1 warehouse and rested the defferent places to the wine in relatits. The who win trade of B rev is mad you may say through B rey; over 3,000 in it are emplyed that All wiges come here, are store I and will be drawn only as fast as th y ar sold, wh a the netive must be paid.

> Excuse abrupt ending of my lett r. am called away. Will send the continuation to a few days. Yours ten y.

Paris, July 24, 1888. It An Ire

The wine growers Distinction bill, introduced by Sir G. Grey in the W. lington Legislature, provides that the Commissi Ger of Castoms may grant to the proprietor of any viney or 1 plant d with vines to the extent of two acres, a license for a still of not less than 25 gallous nor more than 50 gallins ear acity, for the purposa of d suling spirits from wine, or the lees of wine, the produce of his vin yard such spirits, xcept as hereinafter exe pted, to be used only for fortifying the wines produced on his vineyard. All wines so fortified found containing more than the proporti u of spirits specified by the Bill shall be forfeit d. Provision is made for a certificate and recognizances, quarterly returns, and a special store-room. The Distillation Act of 1868 is not to apply. Sir G-o. Gr v hip , this measure will prove of great benefit to the wine growers of the colony, as emable them to compete with the Austral an light

VITICULTURAL COMMISSI NER Mind v presided at a meeting of grap agrowers, he at Sacramento on Tuesday to consider a ans of action for the incoming season. Several were proposed; one was a co-cp rativ winery. Many favored grap -drying. An organization was effected, and all members agreed not to sell to wineries except through a special committee appointed. Vin varl owners about Calistoga, who do not hav wineries of their own are organizing, and it is expected that many tons of grapes will be dried in Napa valley. Mission and Malvoise, which are in little demand a 1 ng wine-makers at any time, will be drid in church. large quantities.

Among those present were: Joseph Reu-Halks of Placer County.

The first auction sale of Georgia grap s was held in New York last month. The fruit, it is said, cannot be compared with that which is grown in this Stat . The only advantage it has is that it arriv so ir v in the season, and can be kept long r by lealers. On display, the fruit do s not present a very attractive approximate, being small and soft. It brought on sale abent 5 cents per lb.

THE WEEKLY bulletin of New Y rk F origu Fruit Exchange, reports the following arrivals of raisins:

From London, 1,881 boxes Sultana rusins and 3507 boxes Valencia.

From Glasgow, 5072 be xes Valenc a rais-

From Liverpool, 701, box s. To arrive: From Malaga, 1852 boxes. From Londoo, 20 0 boxes Vilencia.

A watten in the l'a wirdist, who claims to capping off the largest sines a foot or two, in summer, at at the time the truit is coming thats for growth, the season given bing that the sweet pile s required to sustain thes long st causes at their cods will thin be appreximated by the fruit, and aid I the repening it early and making it sweet r than it would otherwise be. idy a trying this experiment on a few vines uly, and with crate n.

STATE E time gist, Lintair, says that a ry vin b the allied to the common June bug, but of only about one-fourth the siz and of a yellowish color, is proving v ry d structive to grape vines in the southern part of Virginia, by cating the leaves. Near y all the feeling is done during the night. The bugs sometimes come like swarms of bees, and, alighting on the vine, bef re morning the vines are half stripped, the leaves being left a mere network.

SE BETTER WETMORE of the State Viticaltural Commission, has received a letter from the Foreign Fruit Exchange, at New 1 rk, which says, that a cheap substitute for the "off stalk" Valencia raisins imported from Spain, is wanted, and that in the present state of the New York market. a good article of dried grapes would probably bring 5 cents a pound there.

L. V. M ORE, United State Consul at Ly us, France, reports | xports of wine and iq ers from that part to the Unit d States for menth of Jan , vidu-d at \$1182 29, ger t shipm its valued at \$36,192,82 in th sain month of 1887. For the first six a uths of 1825, a der as is noted of \$21 528,00 against the corresponding period of 1987

THE HOUSE of Bishops of the Protestant Episcopal church, at their last session, passed the following resolution without a lissenting voice

R . Iv. l. That in the judgment of the Hous, of Bish is the use of unferment d price if the grape as the lawful and proper wing of the Holy Eucharist is unwarranted by example of our Lord, and an unauthor iz I departur, from the custom of the

AT A MEETING of the grape growers in Livermore Vall y held yester by, the resotier, L. H. Fassett, G. C. McMu lin, E. L. Jutton formerly debited, was ad pted, and signatures were taken, covering over 500) t us I the future crop, which will be with hall from the market unless the sum of albjer to can be realized in accordance with the plan greed up n.

> THE en gr ph says. "The vineyards and re ands of Redlands and vicinity are preducing very heavy crops this season. is a with height of the season, and at may calards fruit is being dried by the owners, while others are hashing their crops o the drying and canning establishments it San Bernardin and Celton.

CLIEBNIE J. WETMORE, the Secretary of th St to Bear l of Vitien tural Commissioners, has been visiting Shasta county during

BONFORT's ( r d r appounces the priane in N w York of Mr. Hans H. Kchler, f M sers K hl r & Frohling, the cliest firm of wine merchants in San Francisco

#### WINES OF THE GIRONDE

The Department of the Gironde possesses about 149,000 hectures of vineyards, producing augually on an average 250,000 tonneaux, or 2,280,000 hectolitres of wine These wines are celebrated for their variety their remarkable perfection, the low prices of their common qualities, the enormous prices of their first qualities, and by the remarkable trade to all parts of the world to which they give rise. The estimated average value of two-sixths of the annual produce is 50 francs the barrique; twosixths, 125 francs; one-sixth is 250 francs. and the last sixth, 600 francs the barrique, immediately after the spring racking. This gives a gross production of 280 millions of francs, and, if we deduct from that an average annual expenditure of 500 francs per hectare, we find that the Gironde raises an annual clear value of 180,000,000 francs in the shape of wine alone.

The Gironde is practically divisible into five wine producing districts-namely, the Médoc, a district on the left bank of the Garonec, extending from Blanquefort to the sea; the Graves, or high plains about the confluence of the Garonne and the Dordogue; the Cotes, or inclined banks of the right side of the Garonne; the Palus, or low murshy territory on both banks of the Garonne in the more immediate neighborhood of Bordeaux; and the district of Entre don't mers, or low land between the Dordogue and Garonne.

#### THE MEDOC.

The Médoc, geographically so called, is the tongue of land wnich forms the left border of the Garoune after its union with the Dordogue, called the Gironde; and it extends from Blanquefort, a little town about fifteen kilometres west of Bordeanx. to the sea. But the Médoc of the vinophilist begins only west of Ludon, in the Commune of Macau. It produces the wines of Labarde and Cantenac; in its very heart those of Margaux. Further on are the great growths of Saint Julien and Panillac. Still farther west it produces the Estephe, and at its western limits the wines of Saint Senrinde-Cadonrue. This is the Hant Médoc, a district of about forty-five kilometres in length, and from eight to twenty kilometres in width. Its general feature is that of a vast plain, falling somewhat towards the Gironde. Its soil is gravel, or rolled quartz or flint, covering a aubsoil is sometimes clayey, but most frequently formed of sand, or of sand which by an infiltration of hydrated iron oxyde has been concreted partly into a soft, friable, pudding stone, partly into a very hard, rock-like material, both being known under the name of the alios. This variation of the soil causes a great variety in its products so that the best and most inferior wines grow frequently side by side. As the vines are the same, and their cultivation identical, the soil alone can explain the difference, but the special conditions of this diff. rence are yet wrapped in mystery.

### VINES CULTIVATED IN THE MEDOC.

The vines cultivated in the Médoc are not many in number, but the names by which they are designated in various com munities are very numerous. Happily there are at Bordeaux men of science actively engaged to unravel this confusion. Foremost among them is M. Boucherot, proprietor of the estate of Carbonieux, long time he has cultivated all the best known vines of France and other countries, plants, and experimented in his vast vineyard with all the special methods or cultivation usual in the Gironde. He has not only used the results to his own advantage, but allowed everybody to profit by his observations.

The most common vine is the Cabernet

Saavignon. This vine is also termed Petite Vidure in the neighborhood of Bordeaux Its canes have nodes at frequent intervals; its leaves are amall, rather thick, more long than broad, with five lobes separated by deeply cut sinuses, and strongly toothed at the margin. Their upper side is rugged, and of a light green color; their lower side is slightly woolly. The blossom is not very easily spoiled by cold weather. The bunch of grapes is of less than middle size, pyramidal, longish, generally baring two somewhat detached wings. The berries are small, of even size, blaish black, very bloomy, with a thin husk. They are very juicy, and have not the sweet astringent taste of the Burgundy graps, but a more acidulous, refreshing, and most agreeable taste, giving the impression, says Bronner, as if one had the Bordeaux wine already in one's mouth. The surname of Sauviguou is derived from the similarity of its leaf and wood to the vine of that name, which will be mentioned lower down. It is the best and most fertile of all the fine black grapes of the Gironde, ripens the earliest, and spoils the last. It is the most esteemed in the great growths of Panillac, Saint Julien, and Marganx; it makes up five-eighths of the plantations of Lafitte, Monton, Latour, Léoville, Margaux, Rozan, &c. It grows particularly well in the heavy soils mixed with much sand and clay. It is regular in its production, but its product, like that of all the best vines, is never abandant; it carries all granes to an equal degree of maturity at the same time, without showing on the same stalk, black, red and green grapes. It yields wine of a fine color, full of delicacy, and possessing great houquet. The wine during the first years is a little barsh, and in order to acquire its perfection must be kept four years in the wood and two years in bottle. But under these circumstances, if it be of a good year, it keeps exceedingly well, increases in deficacy and bouquet up to its fifteenth year, and keeps its qualities up to the twentieth. After that it loses its soft fullness and becomes drier. The Cabernet Sauvignon stands to the great wines of the Médoc in the same relation as the Piaeau or Noirien to the great wines of the Cote d'Or; as the Riesling to the great wines of the Rheingau; they would not exist without it.

The second in importance amongst the vines of the Gironde is the Franc Cabernet (or cabernet gris) a variety of the former. The nodes of the canes are more distant from each other than in the former; the leaves are more wide than long, and dark above, but otherwise like those of the Cahernet Sauviguon. The petals of its flower do not fall at blooming time like those of other vines, but open at the top. and form a kind of mouk's hood over the ovary. The bunch is much like that of the Cabernet Sanvignon, but has smaller herries. This variety prospers in lighter soil (graves douces) better than in heavy. Its wine may b. described in the same word; as that of the first variety.

The Merlot (or gros doux) has a fine bunch of grapes about the middle size, of pyramidal form, and winged; the grapes are a little flabby, bluish black, and with a thick husk. The Merlot can not bear has maintained a collection of synonymous drought, and grows best on moist inclines, thick double walls, and a double roof with

or so-called graves fraiches en coleaux. Its grape ripens a few days before that of the Cabernets, and when once ripo it easily becomes rotten. Its wine is lighter and earlier ready than that of the Cabernet, and has much less bouquet and juiciness (seve) than the latter; it also wants body and durability, but its great property is to be soft and tender.

Pagaierre states that the Merlot has its name from merle (a thrush) because this bird was a particular friend of the grapes of this vine.

The Malbec bears many names in the Giroude, amongst them Noir de Pressac, Gourdoux, Estrangey, Cot rouge, Pied de Perdrix. In Central Germany it is known as "Blue James" or "Jacobin," The vine is an abundant producer, and thrives in consistent soils, but also in the gravelly soils if they are are not too lean. Its grape is very precocious, very aweet and tasty much inclined to rottenness when one ripe, and gives a light wine without qualities, particularly when grown on fat land. This explains why this vine is not much grown in the great situations of the Médoc; it is only ollowed in the low grounds, and its grape is admitted only as material for second-rate wines.

(To be continued.)

#### THE WINE TRUST.

The Sacramento Bee again calls attention to the injury which the Wine Trust is doing. Trust is doing the development of this State, by forcing the grape growers to accept \$10 and \$12 per ton for grapes which are worth twice the amount for wine parposes. It says: The effect of the combination has been to make the few large wine merchants wealthy in the past two years, while the poor vinayardists, helpless in the hands of the monopoly, have almost decided to tear up their vines. The inevitable ffeet on the State's progress, if the power of the Wine Trust is not broken, can be readily imagined, for the Eastern sojourner will undonbtedly decline to buy good vine yard land and plant choice varieties of vines if he believes that after all his expense and four years of waiting he will get hut \$10 or less, per too for his produce. At present the small vinevardist feels that be must either sell his wine grapes for what the wineries will offer him or else allow them to rot on the ground. His best defense doubtless would be to co-operate with his neighboring vineyardists and put up a winery and then sell the wine at auction in the East as fruits are now sold. Such sales would doubtless meet with as great success as have the fruit auctions; and these latter have broken the power of the combination of wealthy fruit shippers by acting entirely independent of them and treating them as on a footiog with the hamblest grower in the State. Co-operation is not always possible, however, for vineyardists, even by co-operating to find the capital to start and run a large winery. The Natoma Vineyard Company is deserving of credit for their fight against the trust, notwithstanding the fact that it was made in their own defense. Last year, instead of selling their grapes as usual, they made them into wine rather than submit to the dictation of the trust, and, although their accommodations were meager, they made an excellent wine which they have declined to market until its quality was assured. This year they have built a large brick wine warehouse capable of holding 700,000 gallons of wine. There are

a layer of soil between, the temperature being thus made so even that without artificial means of cooling the thermometer never varies more than one degree and a half from 70°. Governor Stanford, too, told the Wine Trust to go to Tophet, and erected immenae storehouses at Vina in order that his grapes could be turned into wine and thus bring a fair price. As the revenue of Vius belongs to the Stanford Universityhis gift to the people of the State-he thus worked both directly and indirectly for all California.

These means of defense against the Wine Trust are not, however, open to the small vineyardist without capital, and co-operative wineries may prove unwieldly things to manage. The question then is, in what shape can the grower put his wine grapes so that he need not be at the mercy of the Wine Trust. The Bee several days ago called attention to the plan of drying the grapes, under which the green fruit would bring in the neighborhood of \$20 a ton. Some of the growers of Sacramento county have called a meeting of all wine grape growers of this locality for next Tuesday, August 14th, at 1 P. M., at Granger Hall, to thoroughly discuss the matter. The plan proposed is to decide on a fair price for the grapes, and to agree to dry all wine grapes noless the wineries will pay the price. If a course of this kind were followed in every county of the State, single members of the Trust would not continue to build \$759,000 blocks out of two years' extra profits wrung out of the small vineyardist, who is left nothing to show for his labor.

### FRENCH WINE ADULTERATION.

A pleasant report comes from Spain concerning the spirit now used in the preparation of wines which are exported in such immense quantities to France, and are sent thence all over the world as French wines. This article is known as industrial alcohol. or German spirit, and comes chiefly from Berlin, where it is distilled from potatoes. beet and other roots, cereals, and, it is said, even from sawdust. It is without color, and is alleged to be free from fusel oil; but it contains acid far more pernicious than the oil, and most deleterious to the health of the consumer. How rapidly it has come ivto use for the purposes of the manufactura of spirituous liquors, liqueurs and the fortification of low-class wines may be seen from the fact that in 1850 the total quantity of alcohol imported into Spain was 140,096 galions, while in 1860 it was 2,024,572 gallons; in 1870 it was 3,573,284 galtons; in 1880, 12,260,864 gallons; and in 1886 it reached the enormous quantity of 23,453,-090 gallons. The bulk of this spirit appears to go to France in the exported wines, with the alleged results of increasing the number of spicides in that country from the use of alcohol sixfold, of increasing the number of men unfit for military service fourfold, and of raising the percentage of lunatics from 9 to 16 per cent, of the population. The publication of these figures has aroused an agitation in both France and Spain, which has competled the Governments to take action in the matter, and the Spanish authorities, unable to forbid the importation of the obnoxious spirit, because of existing commercial conventions, have issued a royal decree which provides that all spirits imported into the country shall be analyzed before being cleared at the custom house, and if found impure are to be methylated, but it is not thought that the decree will effect its object. The high-class Spanish sherries are, of course, not affected in any way by the use of this "industrial" alcohol in manufactured wines.

#### OUR NATIVE WINE SHIPMENTS BY SEA.

### PER P. M. S. S. CO'S STEAMER CRANADA.

TO NEW YORK.

明人世界号。	sfiltera.	PACKAGES AND CONTENTS.	a illovs	VALER					
-	J Gu dar &C .	"Al batrels Wine	2,107	\$1,5417					
; S	. I'r tu i u k Co	Starr le Wine	2335	115					
1 F	M Cunco	21 barrels Wine	1,015	(34 N					
8		T turrels W n		167					
V	**	2 barrels W ne		0.53					
) F	Lenorman I Bros	I barrels Wine		74.4					
+4		I half-barrel Wine		1,10					
. C	T Vu-sate	O barrels Wige	\$193	122					
16	t Carpy & Co	25 harrels Wine	1.239	530					
JW	**	10 barrels Wine	11935	33-					
64		I barr I Brandy	27	65					
√Z   Ν ⊆	. **	10 harr le Wine	1511	250					
MC.		3 barrels Wine	50.1	20.0					
4 B		III carrels Wine	-195	200					
NT		13 barrels Wine	837	27.0					
1 B	Lachman & Jacobs	20 barrels Wine	1,0.30	311					
A Committee of the Comm	44	15 barrels Wine	Tim	256					
V B in diamond	**	35 barrels W ne		600					
I in diamon t	10	15 barrels Wine	7696	255					
in dram ad		25 Uarrela Win	1,276	061					
k 1'0		3 tarrels Brandy	105	182					
. B & J		2 tarrels Bran y	1	** **					
**		1 half-burrel Brandy i	179	109 271					
& Co	. 5 Lachnian & Un	5 ha f barrels Brandy		2.1					
d Brow	ATIM IT IT HIME CO	I ba rel Wine	50%						
		I case Wine		224					
Rrss & Co		1 barrel Wine		199					
A & F	Popper v Lioping	10 half-barres Brandy	1.000						
	2' D-	It had be said Decade	516	15009					
N 157314	. veri firm	10 ha f-barrels Brandy	78	17.74					
. M.B	1,6-61 2 60	Bhall barrels Wine	6,260						
0 2 00	A Greenbaum & Co.	125 barrels Wine	41,271 000	2,214					
The sale of the sa			"7-9 a"+34	14.026					
				1.737					
Total amount of Branc	y		1,1101	4.101					

#### TO CENTRAL AMERICA

The state of the s		- material
PAktu, Imaga a M tea egre & Cu. 10 cases Wine		4 40
M II, t hamperico W Imerding & Co I harrels Whiskey	3 2345	162
M M. San Jime de Qunt Shwartz Bros 1 keg Wine	12.	25
B B, Corint : Napa Valley Wine Co 6 half-barre's Wine	155	143
1 k gs Wine	10	261
E R. Guatemala Hellman Bros & Co. 20 cases Wine		41
A & S. Amapala J Gundla h & Co 17 packages W ne	150	125
M in pamond, Amapa'a	1 %(1)	212
II J. Cor.nto " 25 barrels Wine	65	36
3 kers Wine	238.1	21
1 leg Brandy	111	20
o cas s Wae		30
H B. Gua'em ila . \ Greenbaum & C I barrel Whiskey	3.1	341
K & Co. Gusternain	110	11
Il G. Goatemaia 1 half bart I Brandy	25	352
L& M. San Juan del Sur Slachman & Co Sk & W.ne	7.4	70
	25	35
C S, La Chion B Dreyfus & Co I half barrel Wine	111	110
1 Cases Wing		20
		55
u S, Lorinio	91	95
O February	271	
A, thi thin I barret wife	21	15
Gde N, Connto John T Wright 31 mases W ne		110
7 Claste Deanuy		3.5
I F de N. Amapula	2 00	41
		14
	\$11	124
L R M, Champerico Urrea & Unoste 3 cases W De		212
M G, Oces 2 cases Wire		1.4
	1,152	\$1,140
	170	1ths
Total amount of Brandy, 5 rases and	35	\$#1

### TO MEXICO.

A	B.	Magatian Tangy ( arra)	nt & Co	is cased Wille		8 511
		A-apulco J 1) Mejeral		2 barrels Wine	 67	2011
B	T.	San Benito W Louisa.		harre's Wine	 101	75
		Madatlan		1 cask Wine	27	1 %
ľ						
		T tal amount of Wine, 6 cases and .			191	\$216
_	_	The substitute of the control of the			 	4410

### TO ENGLAND.

& Co, London	120	\$ 29 82 730
Cotal amount of Wine.	750	8-11
mo DANARA		

#### TO PANAMA. 20 outs Wine

TO GERMANY  6 & Mamburgh A Greenbaum & Co 2 cases Wine		
aks.	Hamburgh A Greenbaum & Co . 2 cases Wine	

T	O NEW YORK-	PER SHIP AMERICA.		
JAH	TY LICOLE & LO	4 packages Wine	1589	92 144 2
B D & Co		(50t) barrels Wine.	24 463	11,545
	Lachman & Jacobi	121 barre s Winc	20,758	5,3003
R in diamond	**	15 barrels Wine.	765	31
B in dumond	46	54) barrels Wine	2.572	1,029
J B in diamond	4.0	25 barre s Wine	1.2%	511
V in diamond	**	30 barre s Wine	1,554	1522
P L in n amond	44	25 barn 5 W ne	1,276	51 →
E V B in diamond	4.0	75 bazrels Wine	3,519	1,528
A in diamond	10	5 barrels W ne	1.762	705
L in dismond	**	25 barrels Win-	1,257	5013
H in diamond	47	2 and 4 barrels Wins	131	52
Sindamund,		100 barr is Wine	5,054	3,023
K & T	Kohler & Frohhug	(RA) barrels Wine	19,531	7,511
	**	100 barrels W ne		2,100
LC&C		50 barrel. W ne	2,50%	1,000
		84 cases Wine		
B & C	1	SEE cares Wine		
14		15h, cases Wine		
J W & B		52 farrels Wine	2, 121	1818
G	J Gundisch & Co	150 barrels Wine	7,43533	2,434
K & Co		2 barrels W ne	1111	611
A V Co	Shill ng k Co	326 barrels Wine	15,180	6,192
		13 custs Wine	1.377	
L half ring	S Lachman & Co	2003 barrels Wine	110,050	4,0.30
T tal amount of W ne,	53×4 <sub>2</sub> cases and		133900	952, mis

#### MISCELLANEOUS SHIPMENTS

	DESTINATION,	1 Exe • \$	Resi e	ALL 35	₹ 4 R.
	New York			2.514	2700
- 1	("b rago		75 a 4 E	2 254	895
- 1	Vistoria	4	No. of	445	270
- 1		Australia	85 K F	3.169	
	entral America	Falcon	N F	2 70	
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1.3	Honolulu	W. H. Dimond.	Cash mt e		
			Cast a Lit C .	1.1-1	
1	Total			11.152	\$1,1241
	Tota shipments l'ac	ama «teamer».	35,950	J. 110	\$16,732
	Total Miscellaner us sl.	pmenta	115,3%2		59,175
3	Grand totals		181 (032		\$75,6×17

### CHALLENGE

## Double Acting Wine Force Pump



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SAN FRANCISCO, CAL.

### Preserving Grapes.

Grape Jelly. The grape most not be the fir add cinnamon and cloves to taste, more than half ripe, less will do. Crush the grape in the bottom of the preserving stems, r = ving broken and imp rectiones. the grape to the constraint slowly and carefully. Line earth it par, with grape leaves and fill measure the juice and allow from three-quarters of a pound to a pound of sugar to every pint of juice. Some varieties of grapes, especially the colored grapes grown and one-fourth ounce ground grapes, especially the colored grapes grown all vis. Bull vin gar and spices five minin California, do not always require a pound of s. all su\_ar, let come to a boil, r move of sugar to a piut of juice.

they are tender and much them through a GRIPE I TIEB .- Mash and sift the ripe

til a most ik a j lly. Before taking from

Pu kled Gaires .- Tike ripe grapes on SPICED GRAPES. -Boil ripe grapes till from fire; when cold pent over the grapes.

colander (or Fruit Press to remove the grapes through a si ve. Ald on and oneseeds. To a pound of grapes take three, had pounds of sugar to each pound of pulp, foorths of a pound of agar and one-half space to tast tell slowly an hour and teacupful of vinegar. Boil all altogether pack as you do marmalado or jelly.

### THE OLIVE.

Thou partakest of the fatness of the olive Romans xi: 17 A green olive tree, fair and of goodly fruit -Jeremiah wi: 16

In everything that is good, says Joseph Whitton in Table Talk, nature seems to have implanted an abundance of beauty and sentiment; and the olive is no exception to the rule. There is a Biblical, mythological, and gastronomic interest surrounding it, which it would be vain to look for in any other edible,-more, perhaps, than the ability of my poor pen can give full justice.

There is sometimes a ludicrous as well as a sentimental side to the olive-at least, I have a recollection of discovering it on two or three occasions. I will relate one of them. It is well known that the taste of the clive to the upinitiated is frequently anything but pleasing, the character and degree of unpleasantness varying-according to the constitution of the different palates-all the way from Castile soap down to the ordinary hrown. The occasion I refer to, was a private dianer party of some twenty guests, among whom was a maiden lady of sixty summers-a length of time, one would think, that should have given her the opportunity of making a friend of the olive. But, it appears, it didn't. I had the good fortune of heing seated directly opposite to her at the table, and could not, if I had wished, have avoided the little entertainment in store for me. At the end of the first course the dish of olives was handed to her; and it then became very plain to me-from the attempts she made to secure one on the end of her fork-that this was her first interview with the olive, whom, of course, she was quite excusable in believing to be an innocent little pickle. Not succeeding in getting it on her fork, she took the dish and scooped two or three of them on her plate. And then the "circus commenced" -and it was literally a "circus;" round and round the plate, ran the poor clives, dancing out from under the thrusts of her fork with ao aerobatic agility which seemed to astonish my maiden lady. She hegan to grow very red in the face, and looked as if she would have given the world if the maker of that plate had not forgotten to put a corper in it somewhere. Perseverance, however, did-as it generally doesbrings its reward; she managed to get a slight side hold on one of the little fellows, and then I could see the look of savage satisfaction with which she took up her kuife and prepared to bisect his obstinacy. All my readers know that this is not the best way to get bround an olive, and my friend seemed quickly to have arrived at the same conclusion, for she dropped her knife, seized the mistaken pickle between her thumb and fingers, then with a serene smile open her mouth and-well, all things on this earth are transitory: but I don't remember ever seeing anything take its seat in the shadowy past quite as suddealy as did the serepity of that smile. A tight compression of the lips, a look on which doubt, surprise, and misery, seemed about equally mixed, and with a frantic dive into her side pocket she brought up a handkerchief, raised it to her lips for a moment and then replacing it in her pocket, serenity reigned once more

Now let us drop the ludicrous side of the olive and take up the other, which is more interesting.

in universal esteem. No rank or station monopolizes the delicacy. It is found alike on the tables of the prince and peasant-a luxury to the one, to the other a accessity; an appetizer to the juded palates of the rich, to the poor, sometimes, the only substantial dish within their reach.

The olive tree, which is widely distributed in the warmer temperate parts of the globe, is of the genus of trees and shrubs, named: Oleacear Olea Europara. It has a knotty, gnarled trank, with branches of moderate sprend, and a smooth, ash-colored bark. There is something in its very appearance that indicates its vigor, recalling the force of Scriptural reference to it as being emblematic of strength and prosperity. It is, indeed, one of the hardiest trees and though prefering warm and snauy situations, will grow on dry and apparently lifeless soil where other vegetation, even the least exacting, dwiadles for want of nourishment (it requires, however, an annual mean temperature of sixty degrees); it will also grow on wet soil, and even under water. It is propagated from cuttings, and the casy and certainty with which these take root and flourish, no matter how carelessly they may be stuck in the ground, is vouched in the following account of the origin of a handsome olive grove on the out skirts of one of the little towns in Morocco: A military expedition, in the olden time, pitched upon the spot for an encampment. The pegs with which the cavalry picketed their horses were cut from olives in the neighborhood; and some sudden cause of alarm leading to the abandonment of the position, the pegs were left in the ground, and making the hest of the situation, developed into the handsomest group of olives in the district.

The leaves of the olive resemble those of the willow, being lanceolate, of a dark, dull-green color above, and scaly and whitish gray beneath. The flowers are small and grow in dense clusters. The frait, generally ovate in shape, though sometimes globular, varies in color, being first greenish, then violet, and, when fully ripe, nearly black. It never grows larger than a pigeon's egg, and is produced in such profusion that an old olive tree becomes a very valuable possession to its

The olives are gathered before they are ripe, and are then pickled in various ways; first steeping them in lime-water, which process renders them softer and milder to the taste. Instead of pickling, they are sometimes dried.

The fruit of the Olea Europæa is also that from which is expressed the olive oil commerce. The clives imported here come from France, Spain, and Italy, those from each country having their own several advocates and lovers among the epicnres.

We find the olive to have been one of the chief vegetable products of Palestine and an important source of that country's wealth during the Scripture period. The places devoted to its cultivation were called "olive gardens," and these were usually on high ground, sometimes on the moun-

The first Scriptural mention of the olive is in the viii. chapter of Genesis, where the return of the dove to the ark, announces to Noah the abating of the waters:

"And the dove came in to him in the evening, and, lo, in her mouth was an olive leaf plucked off."

And it is reasonably probable that to this In European countries, ever since the peaceful incident the olive leaf owes its

there is no other more logical source to which we can trace it, and our own sense of appriateness and beauty onght to be quite content to let it rest there. Being an evergreen the Bible also uses it as an emblem of prosperity:

"Thy children like olive plants round about thy table."—Psalms cxxviii: 3.

"His branches shall spread and his beauty shall be as the alive tree,"—Hosea

Again we find it the first tree mentioned by Jotham in his allegory delivered from the top of Mount Gerizim:

"The trees went forth on a time to anoiat king over them; and they said to the olive tree, Reign thou over as

'But the olive tree said unto them. Should I leave my fatness, wherewith by me they honor God and man, and go to be promoted over the trees?"-Judges ix: 8.9.

A peculiarity of the olive flowers is their fragile hold upon their stem. The cultivators always dread even the slightest breeze, for it is apt to cause the flowers to fall. A writer speaking of this says: "Of all frait-bearing trees, the olive is most prodigal in flowers. It literally beads under the load of them. But not one in a hundred comes to maturity. The tree casts them off by millions, as if they were of no more value than flakes of snow which they closely resemble."

Eliphaz the Teman, in his second reply to Job, uses a simila in which he embodies this trait of the olive:

"He shall shake off the unripe grape as the vine, and cast off his flower as the olive."—Job xv. 33.

Ovid also alludes to this peculiarity, in his Metamorphoses:

""Florebant Olea; Venti nocuere protervi," which, freely translated, means: "When the olive tree blooms, have a care to the

impudent winds."

So much has been said in the Bible, and by poets, ancient and modern, regarding the beauty of the tree, that the first sight of a grove of them is apt to he disappointing to the one who has been accustomed to see beauty only in foliage of brilliant green. Familiarity, however, corrects this, and the eve soon finds delight in the rippling changes playing over the gray-green leaves. Ruskin, in "The Stones of Venice," where he takes the artists generally to task for failing to do justice to the olive tree, attempts to show them what they neglect to see, and draws a picture, himself, in these words:

"The hoary dimness of its delicate foliage, subdued and faint of hue, as if the ashea of the Gethsemane agony has been cast spon it forever \* gnarled writhing of its intricate branches. and the pointed fretwork of its light and narrow leaves, inlaid on the blue field of the sky, and the small, rosy-white stars of its spring blossoming, and the beads of sable fruit scattered by autumn along its topmost boughs than all the softness of the mantle, silver gray, and tender, like the down on a bird's hreast, with which, far away, it veils the undulation of the mountains." He also tells them that "the notable characteristic effect of an olive tree in the distince of a rounded and soft mass or ball of dowry foliage," and "with trunk and branches peculiarly fantastic in their twisting."

That the olive tree grows to a great age has long been known. Pliny mentions one which the Athenians of his day declared was as old as Athens itself (1600 years).

most ancient days, the clive has been held chief emblematic meaning. At all events, of Marmors, there is still flourishing a grove of very old trees, supposed to coasist of the same plants that were growing in Pliny's time. Another uncient olive tree is that on the road between Tivoli and Palestrina. It is of great size and stood as a boundary between the two possessions, even before the Christian era; and in tha accoud century was looked upon as very ancient.

> As to the seven or eight olive trees now standing in Gethsemane, it is a matter of great doubt whether they be the same that were the silent witnesses of Christs agony, or, if indeed, they date back as far as Chateaubriand asserts-to the time of the Arab coaquests (637).

> The olive has been regarded, in all ages, as the "bonateons gift of Heaven"-the emblem of Peace among all civilized nations. Among the Greeks it was sacred to Minerva, and to the citizen, who deserved to be remembered by his country, no greater distinction could be awarded, por was desired, than a crown of olive twigs; and a like reward crowned the victor in the Olympice game. It was also a Grecian emblem of chastity.

> Among the Romans, as an article of food, it is no less popular. Horace speaks repeatedly of it and in glowing terms:

> "Not the tarkey nor the Asiatic wild fowl can come into my stomach more agreeably than the olive gathered from the richest branches of the tree "

Again he says:

"That corner of the world smiles in my eye beyond all others, where the honey yields not to the Hymettian and the olive rivals the verdant Venafrian."

And alluding to its common use by both rich and poor, he says:

"However, all appearance of poverty is not entirely banished from the hangaets of our nobles; for there is even at this day a place for paltry eggs and black olives."

Shakspere often makes use of the olive in its emblematic sense:

"I hold the olive in my hand; my words are as full of peace as \*matter."—Twelfth Night, i: 5.

"But peace puts forth her olive every here,"—King Henry IV., iv: 4.
"I will use the olive with my sword."

Timon of Athens v: 4. "The time of naiversal peace is near;

Prove this a prosperous day, the three-looked world Shall bear the olive freely."

Antony and Cleopatra, iv:

And in King Henry VI., where that monarch offers to resign the government of his kingdom to Warwick, and the latter reproaches the king for not choosing Clarence

instead, the latter modestly replies: "No, Warwick, thou art worthy of the sway;

To thee the Heavens in thy nativity Adjadged an olive branch and laurel

As likely to be blessed in peace and war." The olive has important qualities to recommend its use for the table-qualities which should certainly secure for it there a more general friendliness than it now possesses. One block-and we presume the only one-in the way, is that to which we have already referred, namely, that its taste is, at first, disagreeable to many people; but the palate soon gets over the squeanishness and in a little time and with very little practica learns to make them with intense relish.

But, laying aside their palatablene.s, there is another consideration which has or ought to have too strong a claim upon our gastronomic affections to be ignored; I allude to their wholesomeness in spurring ears).

Near Terni, in the vale of the Cascade clined to be anywise sluggish. Therefore,

let me say to the dyspeptic that if his taste does not now flourish for the olive, he should lose no time in cultivating it mutil it does; for he will find hidden there, not only an amount of deliciousness he little dreams of, but also more repairing and lubricating material for his weakened inner man, than in all the pills and medic nal draughts that were ever invented for the stomach to concoct.

I would also state for his diffication, that, in the south of Europe, where the olive is extensively used as an article of food, indigestion is scarcely ever heard ofin fact, so little known that the world itself has no comprehensible meaning. He must take this, however, as hearsay evid ence, for I speak it not of my own knowledga. Still, from personal experience of the wholesomeness of the olive, I am prepared and willing to believe it myself, and it can work no serious injury for the dyspeptic to do likewise.

### German Phylloxera Laws.

It may be of interest to reprint Mr. Max Leichtliu's rules for importing plants to Germany, as published in the Illustrated Monthly for General Interests of Horticulture. The directions are specifically for Eugland, but will apply to America equally

"Whoever wishes to import plants from England must instruct the norseries to ship plants in cases, not in baskets, to pack each plant with its root-ball separately and tightly, so that they will not shake and loosen, and to enable the inspector to examine without injury to the contents. Ship through Ilse Sutton & Co., parcels express, or Best, Riley & Co., Holboru Viaduct, Loudon, or any of their agents in the country who connect with Vlissingen. All freight soffers delay at Vlissiogen. Let the shipper mark packages with the needed address of consignee, in care of T. T. Niessen, general agent, Kaldenkirchen, and prefix before consignor's domicile the word 'aus' (from), which are required custom house formalities. If the consignees live in Heilbronn, the address should be 'f. i. N. N. ans Heilbronn, care of T. T. Niessen, general agent, Kaldenkirchen.' Finally consignee must write to T. T. Niessen, Kaldenkirchen, explaining that he is ready to pay for the phylloxera examination expenses and give him instructions how to forward, tively suppressed. whether by freight, express, or mail."

Mr. Leichtlin says that he knows from experience that in following these directions as given the forwarding of plants will be swift, prompt, and reasonable. Any further informatiom on the subject he says he will give with pleasure if needed.

### BUSINESS CREDIT.

The Grocers Journal of Commerce, in the following article, shows how long a man is trasted in other countries:

In France a four menths' acceptance is required to be sent in settlement of the invoice.

In Italy but little credit business is done. and none without good security being given.

In Caba the time fixed for payment is from four lo five mouths after the delivery of the goods.

In the Bermulas accounts are settled but once a year. June 30th is the day usually fixed for the payments.

In England a payment of the price of

In Australia it is searcely possible to do business without allowing a long credit, which is usually one to six mouths.

In Spain four-fifths of the transactions are done on a cash basis, while in Portugal great liberality is shown and quite a long credit is g nerally allowed.

In Turkey even objects of prime necesssity are sold on credit, and in this country, as well as in Russia, the time allowed in most cases is twelve mouths,

In Mexico the large commercial houses willingly give credit from six to eight menths, and in real estate trade long terms are given customers in which to settle

In Canada settlements are made at the end of thirty days with a discount of five per cent. Sometimes a credit of from three to six months is allowed, but in this case there is no discount.

In China it is not customary to give credit. Money is obtained from lenders, who exact an interest of from 5 to 12 per cent. Business is nearly always conducted upon a cash basis.

#### Adulterable Olive Gil.

Quite a ser sation has recently been caused apon the Pacitic Coast by the discovery that olive oil, alleged to be produced in that section, was being extensively adulterated, says the trocers' Criterion. The producers of the gennine article are very indignant that such a state of things should be permitted to exist, and are calling londly for the enforcement of the law in regard to food adultration. It is said that a large quantity of the manufactured stuff is being sold as pure California olive oil, which contains a very small amount of the real article, most of the stuff being composed of cotton seed oil and lard. The genuine article is worth from \$4 to \$6 a gallon, while the imported adulterated stuff can be had in any quantity at 90 cents a gallon. The great difference in price threatens to utterly destroy trade in the legitimate article, unless something is done speedily to put a stop to the deception. The production of olive oil bids fair to become one of the leading industries of the Pacific Coast, and it was thought that California would be able to supply all the oil required for American consumption. For the good of the trade it is to be hoped that the sale of the spurious article will be effec-

### POWLEFUL PUMPS.

The very attractive and interesting display in the machinery hall of the Mechanies' Fair, by Byron Jackson, of his line of irrigating machinery-engine, boiler and pumps is worth the careful attention of our readers who have land to irrigate or reclaim, and is a practical demonstration of the capacity of the Jackson "Whirlpool" Centrifugal pump, more eloquent than figures, and more effective than language. Of the two pumps of this design shown by Mr. Jackson, one throws about 500, and the other 2000 gallous per minute, and the water is made to fall in various beautiful and pleasing shapes, but what at once strike the practical man, who looks into the details is the v hime of water and the economy with which, by means of modern and improved methods, lauds may be irrigated or reclaimed.

Those interested should not miss seeing Mr. Jackson, either at the Fair, or at his goods delivered is required at the end of three months, dating from the day of ship-book on Irrigation and kindred subjects may be had upon application,

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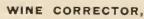


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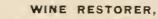
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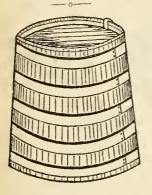
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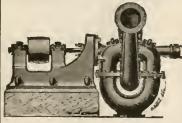
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VOL. XX, NO. 11

### SAN FRANCISCO, AUGUST 31, 1888.

PRICE 15 CENTS

### WINES.

The process of wine making in Francoals is as follows

BY JOHANN CARL LECCES.

The grapes are selected where it is necessary; then pounded with a prooged stick; then the whole mass is thrown into a wiresieve, so that, by ridding, the jnice and ber ries may be sifted through, and the stalks remain behind; then water is ponre! apon the strained pulp, and, after standing tweaty-four bours, it is well pressed. This produces a wine of light quality, called Laner, or "drinking wine." The process of fermentation is rather retarded than harried on, because by slow fermentation, better wine is produced. In order to effect this obj ct, the barrels for containing the must are twice fumigated with brimstone, or charred with burning alcohol,

In general, the crushed berries are put into a vat and covered with an oaken lid, The mosh is stirred up four times a day, and the crush pushed down into the wort. After the first fermentation is over, the clear liquor is drawn off, and the residum in the vat is again put through the press; and the whole, intermingled, is poured into barrels already prepar d by brimstone or alcohol. The vent is then closed with a bung long enough to be plunged into the wine, which is perforated holes of about a finger's thickness; these are fitted with two corkes. As long as the fermentation is active one of these v nts remains open, and after it has ceased both apertures are closed with the cork-spiles. Every fortuight each barrel is filled through one of these apertares, which is again closed, and the other is left open, so that the gas can escape. The refilling is done every fortnight for three years.

If the vines are warmly housed in the vaults they are drawn off in May for the first time, and again on St. Bartholomew's day; but if they are in a cold atmosphere, the first drawing off is deferred to the latter end of September, and the second till the end of November. Should fermentation ensue when the roses are in bloom. then one of the spile-holes is open. In the first year the barrel into which the wine is to be drawn must be previously burned out with half an ounce of brimstone, and oneeighth of an ounce is to be burned on the surface of the wine. This is also done to generally of a light quality. The red Mel-

the wine which is made from the lees, if they are in good condition. During the second and third years the wine is drawn off twice, and only half the quantity of brimstone used. In the fourth year the barrels are filled up every fourth week; and if the liquid is to be sold, the stock of it is clarified and drawn off. If, however, it is not int-nded to be brought to market, it is no uecessary to clarify it.

A light, drinkable wine can readily be made by separating the must which runs off first, and pouring it into a barrel which has been burned out the day before with half an ounce of brimstone lighted at the bnnghote. In about twenty-four or thirty-six hours afterward it is drawn off into another barrel, which has been burned out with spirit of wine, during which time a considerable portion of the lees have settled. In cold weather, hot must should be added, and the barrel bunged up as above de-

In the middle of December, have ready a barrel burned out out with half au ounce of sulphur, and draw off the new wine into it. Clarify it in January with a quarter of an ounce of isinglass; and in eight days after, burn one-eighth of an ounce of sulphor in the vacum cansed by first drawing ff, some few gallons to make an empty place for the sulphur fames. The draw off again into another barrel, inside of which a quarter of an ounce of brimstone has been burned. Repeat this for a third time shortly before the roses are in bloom, and again for a fourth at Bartholomew, using a less and less quanity of sulphur each time. During fermentation in the summur-time one of the small spile-holes is to be left open. If the wine after September is pretty clear, then the refilling of the barrels is only necessary once a fortnight.

### OTHER OEBMAN WINES.

The Affenthaler wine, from Affenthal, near Bahl, in Baden, is a thick, strong and much-prized red wine. The Ahr wine, from Ahr, in Rhenish Prussin, is red or of a reddish color. It is a light, pleasant wine, and fit for use six months old, but it will not keep over three or four years. From Wallporzheim and Rodendoff they export the best kinds.

Bacharaceer wines-both white and red Rhine wines-are somewhat sweet and racy, and highly estsemed.

Bohemian wines, both white and red, are

niker is the best sort; next to the Aussiger. and a few others from Lentmerizer and Bunzlant districts. Throughout all Bohemia are only raised 26,000 casks of about fourteen gallons.

Grunburger, from Grunberg, in Silesia. The exports here amount to from 20,000 to 30,000 casks. Both the white and red wines are of inferior quality, and sell for eight thalers per cask of fonrteen gallons.

Harrdt wines, from Rhenish Bavaria, and the Palatinate. This is the name given to the wines which are made on the Harrdt Mountains: Nearly all of them are white wines, pleasant to the palate, but not equal ro the better kinds of Rhine wines.

Rhenish Bayaria contains 33,018 morgens of vineyard plantation, and exports annualy from 70,000 to 80,000 fuders (the fader s about seventeen gallons) of wine, the most preferable of which are worthy of

#### ITALIAN WINES.

These wines are used for home consumption. Having a very imperfect preparationthey will bear neither transportation nor long keeping. Upper Italy produces a considerable quantity; but exports a few pipes. Such is also the case with the Romagna and Naples. Sicily exports yearly some 25,000 barrels (somma) worth \$75,000. Savoy produces 200,000 hectolstres about (4,760,-000 gallons), mostly for home consumption, Fiazza produces 68,640 hectolitres, and Piedmont 1,400,000 hectolitres, which remain in the country, becoming vinegar if kept over a year. Parma Prazeuza, 445,000 hectolitres. Tuscany, 1,257,000 hectolitres. Sardinia exports some wine,

The Italiaus let their vines run up on mulberry and elm trees, where the shade prevents a perfect ripening, to the great injury of their wines, which, though sweet when new, sour to vinegar in a short time. The best kind of grapes grow at Albano, eight hours' ride from Rome, with the exception of "Lacrima Christi" (the tear of Christ), the best wine of Italy,

Brescia. The wines from Riviera and the so-called Toscolano are light and agreeable to the taste. In the Upper Riviera the vines are trained upon olive trees; in Lower Riviera on fences six feet high.

Chambery has very good red wlaes, the best in Savoy.

Elba. This island furnishes two distingnished wines: Aleatico, made of boiled must, rum and wormwood, and Muscat. vasie,

Both are white wines. All the others are very inferior kinds.

Falerno is a Neapolitan wine, high red, thick, and somewhat sweet, but fiery.

Genoa exports some red wine of a middle quality, mostly from Tortosa, Novi and Vochera. One barilla contains 74 22-100 litres (French measure). One mezzasolia two barillas

Griante, on the Lake of Como, has a light but savory wine.

· The Lipari Islands produce, besides many raisins which are exported, the so-called Malvasie, an ambor-colored wine, savory, and leaving in the mouth a sweet-after taste. The choicest grapes are selected, and lelt spread in the san from eight to to ten days before being pressed. Cut there are only some two thousand barrels produced. The other kinds, although of a less noble quality, are nevertheless devoid of spirit, are of a pleasing taste, and bear keeping for years. Though some keep the most in tarred skins. he wine loses after a while, in the barrels, the smell contracted from the skins.

Milan has, on Lake Como, at Belaggio and Brianza, pretty good wines; around Pavia but poor ones, with the exception of an effervescent wine resembling in a measure. the champagne. All the produce of Milan is not quite adequate for home consumption. The quartero contains nearly six litres the mina two quarteros, the stare four, and the barilla twelve.

Marsalla, in Western Sicily, produces a similar, but inferior wine of that of Maderia, and exports a great deal to America, under the name of Maderia.

Modena produces very dark wines, tolerably good, but poor in spirits. The best of this kind is produced at Rubina and Sapolo.

In Tuscany, the Monte Pulciano is a atrong, spirituous, red wine.

The wines of Naples are mostly sweet, On the Mount Vesnvius three kinds of wine are made: 1. Lacrima Christi-the best sweet wine of this country-of a find red color, and of an excellent taste and bouquet. Very little of it is made, and this goes mostly into the cellars of the king; therefore that in trade is mostly apprious, 2. Muscat, of an amber color, with a fine taste and bonquet. 3. Greek, a kind of Malvasie, Puzzuolo and Baja have white and red wines, which often sell for Mal-

Calabaria produces good Muscat wines, mostly at Carigliano and the enviros of Tarento. The wine-measure is the barilla of forty-two and a half litres; twelve barillas make one batta, or about one hundred and twenty-two and a half gallons: two battas, one caveo,

Piedmont produces keen, but sweet and dark-colored red wines, which mostly sour in August or September, turn next year into vinegar. But some wines form an exception to this general rule, when more careful wine-growers observe a judicious procedure The best wines are made in Asti aud Chaumont. Atba has also some good, but not strong wines. Gatinara, Masserano, and the red wines of Biella keep better. Montferrat has distinguished white and red wines, mostly those of Casal, fifteen leagues east of Turio. There the rubo has about two gallons, the brenea six rubos, and the carro (a wagou-load) ten brentas.

Puzzuolo, a village in Naples, raises red wines similar in taste to the inferior qualities of Bordeaux; but it hears transportation by sea, and finds ready markets in Holland, Hamburg, America, etc.

In the Romagna, the grape-vines are trained upon elm-trees; and, for this season, they do not ripen always; and, by careless preparation, the wines are bad, and keep rarely over a few moths. The wines from Alhino and Orvieto are exceptions. The latter place produces a tenable red wine, and a white Muscat with a good bouquet and a balsamic perfume, but of not long keeping. Farnese and Terui have also some good wines. At Rome, the barilla has about eleven gallons English, and the botta sixteen barillas.

Sardinia sends her wines mostly by Cagliari. She has Malvasie of Sorso, Posa. Alghiera, Rasco, amber-colored, with a fine bouquet; Gire, sweet, but not spirituous. somewhat resembling the Tinto of Alicante. The wines of Boss, Saffari and Ogliastra are dark red and pretty strong; as a general rule, they are more like the wines of Spain than those of France. Oanneae, Monaco and Garnaccia, send their wines, under the name of Malvasie, to Holland and other northern places. The best wines are kept in earthen vessels, containing about five or six gallons English.

Sicily keeps her common wines, but sends some of her sweet ones abroad. Syracuse supplies good red and white wines, of sweet aromatic taste. The first is pale red and the white one amber-colored. Mascoli and Mazara have quite good red wines; Catanea has strong ones of a tarry taste, which are consumed mostly at home. The wines of Sicily are of a first-rate odor and good taste, but are from the beginning badly managed, and therefore do not keep long. The grapes begin to ripen in June, and the vintage commences in September. One thousand vines give from one and a quarter to four pipee of wine. There are cultivated for wine-making only nineteen species of grapes, of which the best are the Cibibbo, Carmola, Greek Muscat-the dry and the winter grape. In the Lipari Islands the vines are kept high, as in Sicily; they ent closters at the end of August, keep the grapes spread in the sun for from six to eight days, sprinkle them over with lye to neutralize the acidity, and then pack the dry raisins for exportation.

(To be continued.)

THE MEACHANT is largely circulated in the Hawaiiau Islands.

#### WINE MIN IN COUNCIL.

The meeting of the Wine Makers' Association of California at Irving Hall was catled to order on Tuesday last by I. G. DeTurk

A communication was read from J. B. J. Portal, in which he stated that although it was impossible for him to be present at the meeting, he desired to say a few words through his letter in regard to the causes of depreciated prices in California grapes and wines, and to submit a plan of his own for keeping up values. "We hear," he writes, "here and there, the cry of a San Francisco ring controlling everything; they are even unjustly credited with having caused the present panic in prices of grapes. If they are strongly organized for their mutual protection it is perfectly legitimate, and we can't help approving them in so doing. Have we not the same privilege they have? Have we not collectively as much more brain power and capital to organize and do likewise? Surely we cannot throw all the blame of our present trouble on them; as they are also controlled by the two great ractors of the mercantile world-demand and supply, and here merchants and growers meet the same issue. Our wines leave the grower at ruinous figures; the hones, merchant that sells them pure gets but a small profit; it is therefore the retailer that gets the fat goose and makes the disaster. He must make from 200 to 500 per cent profit, making the most ordinary beverage a luxury, which in my opinion is our most formidable enemy. I would propose for your consideration to double the consumption in this State first, and then go farther East. This State consumes nearly 3,000,000 annually; East, about 6,000,000 annually. We produce on an average about 15,000,000, making our over-production 6,000.000 annually, which is too much. Our hotels and restaurants and boarding-houses hardly know what our California wine is, or if they keep any they keep them at such figores that ordinary consumers do not use it at all, who are the very ones who will make real increase and consumption. Let a proper committee be selected and pay them well to canvass San Francisco. See that all eating-houses have good, pure wines. Grade them; sell to them low, with conditions that they shall retail them at such prices that the masses can have a half-bottle, ordinary, at a 25-cent meal, etc. Prove to the hotel-keeper that wine can be put on the hotel table cheaper than tea, coffee or chocolate. Let another committee see that the retailers in turn do the same, and if they refuse to do so, open a co-operative store, and sell native wines at prices so that the masses can drink it, and the grower can have for himself something to eat. Of course, this costs money and takes time. We have both of them. It costs money to carry on any enterprise.

M. M. Estee objected to the statement made in Mr. Portal's letter to the effect that 6,000,000 gallons were produced in this State. He ventured to say that in the entire State there were not 1,000,000 gallons under the vintage of 1886.

The communication was laid over for further consideration.

J. H. Wheeler then took the floor and stated that, as the great question before the meeting was to regain the prices and prestige of California wine, he would start the ball rolling, so to speak, by giving his views on the matter. He was of the opinion that the only way to reduce the overproduction was to dry the grspes. This re- bing them of their merits.

duction of the supply would have the effect of raising prices, and by next year everything would be in a healthy state. As he had heard no objections to the drying process. Mr. Wheeler said he would like to hear of any other schemes that might b available.

Mr. Estee related an incident which came to his notice while in the East recently. He went into a dealer's place who advertised California wine for sale. He asked for some of the wine aud was astonished to see the dealer draw it from a cask It was California claret without a doubt, but of a miserable, weak quality. The dealer informed Mr. Estee that he had no use for wine that he could not keep on tap. Now, everybody knows that a good quality of claret cannot be kept in this manuer While such wine was sold and in demand the better qualities were going to suffer.

A gentleman from Sonoma announce himself in favor of Mr. Wheeler's idea drying grapes to reduce the production. H said he was spre that as good wine could be made from dried grapes as from fres!

Judge Stanley of Napa assured the meet ing that the cause of the depreciation wa the great quantity of had wide on the ma ket. In the East it was impossible to fin any good California wine. The only really good California wine to be found there was sold under foreign labels.

G. deTurk took the liberty to address the meeting from the chair on the subject under discussion. He said that the poor wine was the great stumbling block in this State, both to the consumer and grower. But what shall be done to this poor wine? he asked. Mr. deTurk thought he saw a solation of the problem. Drying the grapes was only a temporary relief. His plan was to gather up all this inferior wine and distill it into brandy. That which was unfit for distillation should be turned into the gotter. In this way an open field would be left for the better qualities of wine.

Upon the conclusion of the Chairman's remerks a recess was taken until 2 o'clock.

Charles Krog of Napa spoke in favor of drying grapes in order to reduce the production. He thought over-production was due to making too much poor wine rather than to the growing of too many grapes. He moved a committee be appointed to address a circular to grape-growers and winemakers, advising them to dry all over-production of grapes, and distill all inferior wines now in their possession and exhorting them to refrain from producing inferior qualities of wine in future. Carried unanimously.

Chairman Ds Turk was appointed one of the committee by vote of those preseat.

W. M. Brannhall addressed the meeting on the general condition of the wine business. He said large quantities of dried and Zinfandel. grapes were used East during the winters. Most of these, however, come from Earope, though the California product was generally conceded to be superior and could command higher prices. California wines, however, had not the reputation they deserved, partly because unscrupulous makers and deslers persist in turning out an article for what is known as "quick consumption," that is that the trade which sells wine before it has time to turn and become worthless.

Another reason was that many dealers put foreign labels on their wines, thus rob-

A general discussion followed, in which many theories were advanced, but the Chairman reminded the speakers that a remedy was what was needed and said wine should be given more prominence under its own name.

After some further discussion the meeting adjourned.

#### THE GOSPEL OF THE GRAPE.

And it came to pass, when Kate, surnamed Field had made an end of communing with viticulturists, she departed thence to teach and to preach in their cities,

Now when the scribe had rend in the prints the deeds of Kate, he sent one of of his reporters,

And said unto her, Art thou she that should come, or do we look for another?

Kate answered and said unto him, Go and show the scribe those things which ye to hear and see:

The blind shall receive their sight, and he tipsy walk, the sots shall be cleansed, and the lush is hear, the drunk shall be caised up and the hams have the gospel of he graps presched to them.

And fortunate is he, whosoever shall not oe offended in me.

He that hath ears to hear, let him hearken.

Now in what temper do I find this generation? It is like unto gin-tipplers sitting in the saloons, and speaking onto their fellows,

And crying, Ye have uncorked to us and we have all smiled; ye have plagged up the jugs, and we have all mouraed.

But the agent came bringing juice unfortified, and you say, He hath a devil.

The SUN of to-day may deliver to them what I ssy, Behold a nation of whisky bloats, and lovers of brandy smashes, the enemies of pure liquors and of unfortified wines. But wisdom is justified of her children.

Then began she to upraid the cities wherein liquids of powerful spirit were made, because they stopped il not.

Woe unto thee, Peoria! Wee unto thee, Louisville! for if the wicked works, which were done in you, had been done in Napa or Sonoma, they would have been covered long ago by sackcloth and ashes.

But I say note, It shall be more profitable for Napa and Sonoma at the bar of the future, than for you.

And thou, intoxication which are exalted above moderation, shalt he brought to nought; for if the many firms, that have worked for thee, had worked for temperance, they would have had a bonanza till the last day.

No man can tipple two liquors; for either he will hate the one, and love the other; or else he will hold to the one, and despise the other. Ye cannot stomach corn jaice

Therefore, 1 say nato you, Take good thought for your throat; what ye shall swallow, of what vine it is made and the state from whence it comes.

Is not the health more than appetite, and the wits than sprees?

Behold the people of California: for they drink wine. Neither do they stomble, nor gather themselves into jails, for the wine in their demijohns is unfortified. And thus it is in the land.

Therefore take good thought saying, What wine shall we drink? And beware that its bouquet has no spirit, for this is the gospel of the grape .- San Diego Sun.

### SOUTHERN GRAPE-GROWING.

The importance of the grape-growing inise during the past d cole, is our only apolsuch thing as "rot" in our vineyards the tude in a very few years, and become the means of profitable employment to thousauls of people, as well as the source of a great income to the State, inasmuch as a large proportion of the products of the vineyards would supply others than the home market. But the rot is here in several forms, and with a vengeauce. There are that it is a thing that will come and go, that nature to take the more hopeful view of all troubles, and we may wish for good things this matter the only hope test is worth anything is that which rests upon some sort of a foundation. It must be a practical hope and a reasonable one, backed up by intelligently directed effort on the part of those most interested. We are sorry we cannot share the prevailing hope that graps rot will go as it came, solely of its own accord or by due course of nature. If we indulged this hope we would put in this phraseology: "We hope the seasons will change, and that those continued wet, sultry spells of rain and mist which come every year in early summer, which germinate the spores of fungi and increase them by millions and billion , will not come any more." If we could realize this hope we would realize a condition so unfavorable to fungus growth that grape rot would not likely trouble us. But it is idle to hope for this condition to "turn up." We must pull off our coats and turn up counter conditions if we expect to suce-ssfully combat the evil that now besets us and succeed in the production of fine crops of grap s. We must get between our grapes and the spores of the fungi with a loaded guu. We must besiege the enemy and starve him out. We must dislodge and rant him, horse, foot and dragoon, and rid the vineyard of his prescuce. Some people may smile, but we are hopeful that this will be accomplished. Science is moving its batteries nearer and nearer and aiming with greater precision its improved implements of war, while the invader's strongholds are under the constant scrutiny of the microscope, and his weak and vulnerable points are becoming more and more exposed to effeetive attack. We may hope for his final and overwhelming defeat. To gain so important a victory it is the duty of every grape-grower to culist in the service. In order to do so he must come to an intelligent understanding of the nature of the fight, and use all his ingenuity toward the desired end.

He must discard theories, such as "too much sap in the vine," "something the matter with the root of the vine," etc., and accept the actual, demonstrated, proved facts of science, and go to work on the spores or seeds of the different fungi that infest the vineyard. These spores are in onr own vineyards by the millious. We cannot harvest them and we cannot blow them out with a bellows. They must be prevented from germinating on the vine and its fruit, they must be hindered from contact with these their only means of life, selves. They feed upon the assimilated in California, has been extensively operated

or they must be deprived of the power to sprout and grow. This is the question with the grape grower. What substance or comdustry in this State, so full of bright prom- pound will destroy their vitality? What means or agencies have the grape growers ogy, says the Cotton Plant, for pursuing the of South Carolina ever tried, and with questions which aff ct it. It there were no what success? We are sure that if the intelligent growers of the State will accept business would grow to one of great magni- the true diagnosis of the disease and labor toward the discovery of an eff-ctive remedy, their efforts will not be without reward; Farmer grape-growers who have conversed with the writer on the subject show a natural aptness for the work of fighting fungi. One of them at once suggested a strong wash of lye soap, to be applied to the entire vinc. Another thought those who believe that it will not stay long. of carbolic soap or carbolic acid. It is evident that they grasp the proper idea, while the grape erop has rotted badly this that of applying a preventive of causties year it may not rot at all n at year, and we or disinfectant properties. Something of may not hear of it again for a long term of this kind will be found to be the remedy or vests, etc. It is characteristic of human preventive of grape rot, and we again urge that all grape-growers, even those who have but a few vines, prepare for experiwith all earnestness, yet wish in vain. In ments next year. Should it follow that no experiment has proved successful, we prediet that every one will be rewarded for his labor, as suggested by Mr. Wanner, of Walhalls, by a closer study of his vines and his business and find himself better prepared for hopeful work in future. nable information as to other fruits and other crops will come with every effort in this line.

This paper has devoted much of its space to the elucidation of this subject, believing that good results will follow the dissemination of useful information, such as will keep fruit-growers "in the straightforward road," or on the right track. In this direc tion the principal abstacles encountered are the groundless "theories" of men of intelli gence and influence who put forward their thoughtless funcies rather than plansible and reasonable theories. These gentlemen, we say in kindly spirit, are not theorists but obstructionists. They hinder the progress of knowledge and enlightenment when they deelsre themselves opposed to and disbelievers in "the fungi theory," "the spore theory," as they term it, when they discuss the cause of the rot. We can only say of those of this turn of mind that they are worfally behind the progress of the day, and will find themselves "nowhere" when they undertake to upset the truths which the investigations of science have unveiled,

Not only for the purpose of substantistion, but in order that our readers may know that we are discussing what is not a theory but a fact, we give them what scientific anthority has to say on the ambject:

I'. S. DEP'T OF AGRICULTURE.

SECRETARY OF VEGETABLE PATHOLOGY.

Your observations relative to the various rot-producing fungi are very clear and correct. Mr. Wanner does not appear to fully understand the nature of these pests. To be sure, we have not yet a full knowledge of their habits; they are small and hard to keep in sight, but there is nothing mysterions about them. The fungus that by its growth in the berries causes Blackrot, and the fungi which in a like manner produce the other recognized forms of graps rot, are all plants, possessing individual characters by which the botanist readily distinguishes the one from the other. They may be classed with the weeds which grow from the soil about the vines, only it is their habit to grow directly on the vines them-

food of the vine, for they are incapable of assimilating food for themselves. By this habit they destroy the living tissues in which they grow, and the "rot" follows. The most delicate part of all these fungi are the spores from which they grow, as higher plants grow from seeds.

There is nothing mysterious in these spores, excepting the principle of life; they are only very small and very numerous, They are lighter than thistle down, and the gentlest current of air serves to waft them from place to place. They may fall with moisture and germinate anywhere, but they quickly perish on all surfaces excepting those of the vine. On the green parts of the vine (the berries included) the filaments produced in germination quickly penetrate to the tissues within where suitable food is found for their continued In a few days (rarely less than four, or it may be more than a mouth) the effect off this growth becomes visible through the changes produced-in the case of Physalospora Bidwellii, we name these changes "Grape-leaf spot disease" and "Blackrot "

Our only purpose in applying the sulphate of copper compounds to the green parts of the vine is to interpose between the surfaces of these parts and the spores which may light upon them, a substance which will prevent their germination or dastroy the yet more delicate product of germination. this rests the principle of success in the application of solutions or powders for combating the Peronospora or the Physalospora. In the treatment of the oidinm or Powders Mildew the case is different, as I have frequently explained in my official reports.

In connection with the article in the Cotton Plant, allow me to call your attention to the letter quoted on page 44 of Bull, No. 5 of this Division. Some of the points made by Mr. Wanner are there considered. Also see observation near the middle of page 64.

The diseased berries and leaves sent with your favor of the 7th inst, are affected both with brown and black rots. I see no mildew on the leaves, however. Some few of the berries have been attacked by the fungus of Anthracnose,

As I have intimated above, the fungus may enter the tissues of the host, make a limited growth, and then remain inactive for a long time. Certain conditions, dith cult to understand or determine, impart to it new vicor after a time and a sufficient development takes places to produce the external changes which we designate as one or the other form of rot.

Some of the young shoots you send have been attacked by Anthraenose, others by black rot. These are made by the latter nearly always have on their surfaces little black pustulus like those which occur on the berries.

> Very respectfully. F. LAMSON SCRIBNER.

### A SECRET DIVULGED

For a long time the method of preparing rystalized fruits has been kept sceret, but a price offered by the State Board of Horticulture has elicited an explanation of the process from J. J. Pratt, Superintendent of the Sutter Canning Company, who makes the following statement:

The process of preserving fruit in a cry stalized or glaced form is attracting considerable attention at the present time, This process, although comparatively new

in southwestern France for years, the United States having been heavy importers, paying faney prices for the product.

The process is quite sample. The theory is to extract the juice from the fruit and replace it with sugar syrop, which, upon hardening, preserves the fruit from decay and at the same time retains the natural shape of the fruit. All kinds of fruit are capab'e of being preserved under this process. Though the method is very simple there is a certain skill required that is acquired only by practice. The several successive steps in the process are about as

First the same care in selecting and grading the fruit should be taken as for causing; that is, the fruit should be all of one size and as near the same ripeneas as possible. The exact degree of ripeness is of great importance, which is at stage when fruit is best for canning. Peaches, pears, etc., are pared and ent in halves, as for canning; plums, cherries, etc., are pitted. The fruit having thus been carefully prepared, is put in a hisket or a bucket with a perforated bottom, and immersed in boiling water. The object of this is to dilute and extract the juice of the fruit. The length of time the fruit is immersed is the most important part of the process. If left too long, it is over cooked and becomes soft; if not immersed long enough, the juice is not sufficiently extracted, which prevents a perfeet absorbtion of the sugar.

After the fruit has been thus scalded and allowed to cool, it can be again assorted as to softness. The next step is the syrup, which is made of white sugar and water. The softer the fruit the heavier the syrup required. Ordinarily about seventy degrees Balling's saccharometer is about the proper weight for the syrup. The truit is then placed in earthen pans, and covered with the syrup, where it is left to remain about a week. The sugar enters the fruit and displaces what juice remains after the scalding process.

The fruit now requires coreful watching, as fermentation will soon take place, and when this has reached a certain stage the fruit and syrnp is heated to a boiling degree, which checks fermentation. The heating process should be repeated as often as necessary for about six weeks.

The fruit is then taken out of the syrup and washed in clean water, and is then ready to be either glaced or crystalized, as the operator may wish. If glaced, the fruit is dipped in thick sugar and left to harden quickly in the open air. If it is to be erystalized, dip in the same kind of sprup, but it is made to harden slowly, thus causing the sugar which covers the fruit to crystalize. The fruit is now ready for hoxing and shipping. Fruit thus prepared will keep in any climate and stand transportation.

Tuz vineyardists of Yolo are working together. They operate a winery at which they commenced crushing grapes last week, The corporation handles almost exclusively their own grapes and put upon the market the wines manufactured therefrom. company has now 35,000 gallons of wine from the '57 vintage, which they are holding for better prices than are now obtains. blo. This winery does not quote prices for grapes. The idea of the company is to permit its stockholders to participate in the profits of wine-making as well as of g rape

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#### NAPA GRAPE-GROWERS.

J. H. Wheeler, Chief Executive Officer of the State Viticultural Society, addressing a meeting of grape-growers at Calistoga, is recently reported as follows:

At the commencement of his remarks, he said that he had not seen in his travels about the State within the past few weeks vines looking so green and fresh as in Napa Valley. But he said that the warm weather here as elsewhere had done and was doing a great deal of damage. In Livermore Valley the loss has been very great. The grape-growers there are poor. They combined for protection. Offered half their crop for \$18.00 per ton. Previous to the agitation a wine-maker there offered \$8.00 per ton, but he is glad to oblain 400 tons now at \$15.00 per ton. The other winery there pays the price. Growers are selling only half their erop.

It is difficult he said to get men to co-operste when times are bard. But co-operation under such circumstances as these deatroys competition among growers, and results in their benefit. This they have done at Sacramento. Many tons of grapes will be dried there. About Fresno nearly all are drying-for raisins and other purposes. Last year 500 lons of dried Zinfandels sold there for 31/2 cents per pound. This result has induced growers there to dry this

The drying of grapes he said, takes so many from market, nets the owner a fair price, decreases the wine yield and will assist, if followed up, in getting better prices a couple of years hence. The wine yield of the State will not be greater than last year; the demand at the east is increasing, no vineyards are being planted, and with a reduction of the wine yield a couple of years, drying will again bring up prices, when grapes can be sold as usual, if the grower desires.

Mr. Wheeler said that inferior wines should not be sold. They should by all means be made into brandy, and co-operative distilleries should be used for this purpose in the wine districts. Some eapital, however, is needed.

But in drying grapes no capital is required, hence the speaker advocated drying. For this purpose grapes should have 25 per cent augar-more the better; should be dried on the ground; gravel ts best. The speaker gave abundant and conclusive proof in favor of drying on the ground. Take the large bunches and lay in rows; how wide the speaker did not state. But a plat of ground 20x24 ft, will take a ton of grapes, less room being necessary as they dry. He said that loose grapes and small bunches could be dried on trays, sack eloth-or any other way possible. recommenced the covering at night with oiled Manilla paper-obtainable in large wide rolls in San Francisco at very low cost. It has been used very successfully; will last two or three years; keeps off dew and rain, and hastens drying very much; grapes dry in 15 to 25 days. Bunches dry better and sooner on the vines, if not too much foliage, by pinching or breaking the atems to stop flow of sap. Rain will not injure them there. Grape bunches when picked up and dipped in lye, dry sooner and look much lighter and better, but when dipped cannot be put upon the ground immediately after. Grapes ara dry when no juice comes from them, or when it is thicksomewhat lide jelly.

Mission and Malvoise are the best to dry. Burger will not do, for want of sugar.

After grapes are dry they must be stemmed. This may be done on a coarse sereen; or for \$50 growers can unite and get a machine that will stem ten tons a

When dry and stemm d, the grapes are packed in cheap cotton sacks or bags without sorting.

Dry grapes are used east by poor people in place of raisins. There is also a demand in mining and other camps in the territor, ies. But the chief demand is from the eastern cities for wine-making, the dried grapes taking the place of still cheaper substitutes, and these grapes make passably good wine-Mr. Husmann says, better than condensed must.

The dried grapes can all be sold. They will bring eash down. Grapes are sold on time and wine is also the world over.

In conclusion he said that there should he concert of action; that a committee should be appointed to ascertain the numof tons of grapes in the district, and then to uisit wine-makers here and elsewhere to see what could be obtained per ton fo grapes; this to be done before action is taken about drying.

The following were chosen as the committee; J. Lang, R. Bennett, C. C. Jewell, C. P. McMerrick, F. A. Crouch.

The committee will attend to their required duties within a week, and report at a meeting of grape growers to be called

### KEEPING GRAPES FRESH.

The mere fact that in grape culture, whether early or late, the productions of the home grower pannet in any way be equaled by any sample from abroad is sufficient, observes the Horticultural Times, to show the necessity of keeping them in good condition as late in the season as possible, inasmuch as late grapes from December till May meet a ready sale, oftentimes at very high prices. In this country very little attention has been paid to the utilization and preservation of late fruit, and we hope that such an important point will receive more attention in the future than it has in the past. In every other country but our own this always forms an important feature in fruit culture for profit, and is always attended with very satisfactory results. With home-grown grapes and with the late productions of the hot-house, especially, the first thing to observe is that the grapes retain as much bloom as possible, and that each hunch be kept intact, and be prevented from coming in contact with anything that would rub the herries and disfigure them. Various well-known methods have been tried and are still in use, but the two following simple and effective systems may be utilized to great advantage, whether the grapes be grown for pleasure or profit, inasmuch as they both admit of the free eirenlation of an even temperature equally around each bunch, and prevent the same from rubbing against each other. In fact, among the many methods for keeping grapes in their natural state for use in winter there will none be found better than the simple ones here described.

The first method is to take new soap boxes, or any other hox of about that size, and nail cleats on the inside of the ends or sides about one inch from the top, and between them bars at various distauces, as required by the varying length af the hearing shoot cuttings. The bars are made by uailing a small strip on top of each. As

shears, and shorten them so that they will cut variety only five years of age which will go between the end of the hox and the top part of the bar, resting on the bottom part, thus hanging the bunches in their natural position. By this method the boxes can be handled without shaking the shoots off the bars, earried to the light, each bunch examined as winter advances, decaying berries or bunches removed, and the best kept without any moldy taste which is so common when they are packed solid.

Auother very simple and inexpensive plan will be found to answer admirably All that is required are two or more iron or wooden hoops, two lengths of wire to evary two hoops to hold them in position, and some string, and the contrivance is complete. When hung up it is the easiest thing in the world to trim out decayed or useless berries; in fact, the stock of grapes can be kept in good condition without even shifting the contrivance at all. At a recent horticultural meeting at Grimsby a member gave an account of his mode of preserving grapes till midwinter. He filled chees boxes with them and buried the boxes in the earth so as to totally exclude the air He then kept them till February. Ther is no doubt that the chief merit of thi mode was in giving the grapes a cool tem perature, excluding air currents and preserving the coolness unchanged. If the same conditions could be preserved in a fruit-room they would be kept equally well. but in common practice they are more or less exposed to sir or air currents, and to a changing degree of temperature. For barying them the soil should be compact, free from stone and with a perfect drainage. But, of course, this is not so simple, nor in fact, so effective as the two methods suggested above.

### A FRESNO VINEYARD.

The greatest prerequisite for the construction of a readable item is to have something to write about, remarks the Re: publican. Our orchards and vineyards! What fruitful themes! One noticeable peculiarity in Fresno county is, that while a spirit of enterprise is everywhere apparent, very few of our vineyardists desire to sell. Without desiring to stand in the way of progress, our farmers are satisfied with their homes and do not wish to part with them. Knowing this we write with a greater freedom. When hospitality is extended for the sake of hospitality, and vineyardists facilitate the acquirement of knowledge with a view of aiding others, judicious importations from the flora of then is the reporter's duty a pleasaut one.

A short drive brought us yesterday to the home of Mr. J. M. Cory, who resides about a mile and a quarter from the center of the city, aun three-quarters of a mile from the city limits, to the southeast. A row of peplars first attracts our attention. The trees are between twenty-five and thirty feet in height and only six years old. Along the lane in front of Mr. Cory's there is a row of umbrella trees, the growth of which is surprising. They are but three years old, are from twelve to fifteen feet in height and as vigorous and healthful as trees well could be. Such a growth has never been met with, we dare say, outside of Fresno. Fan palms grow and spread in a way that would surprise any one unaccustomed to the rich soil of this truly wonderful it is said that through the efforts of this county.

But the erowning glory of Fresno is the Muscatel grape, and the growth we witlate as possible cut off the bearing shoots nessed at Mr. Cory's eclipses all past excontaining the hunches with pruning periences. We saw there vines of the mus-

in our judgment produce at least nine tons per acre this year. Not only one vine, but acres of them. The grapes are large, the banches are large, and they being in masses all around the crown of the vine,

We also saw there vines only one year old that seemed as far advanced as ordinary vines three years of age. Upon these one-year-old vines were grapes enough to more than pay the expenses of putting them in and caring for the crop It is the most wonderful growth we have ever seen, exceeding anything ever noted in Napa. Santa Clara, Butte, San Bernardino, or any other county in the state. It would pay anyone who is interested in vines or in the growth of our county to go and look at Mr. Cory's one-year-old vineyard. He has eighty acres. Twenty a res are from three to five years old and sixty acres are but one vear old.

The care that has been exercised in the planting of this and other vineyards in the vicinity is notic able. The rows line in every direction. The absence of weeds also attracts attention. Sub-irrigation by seepage, the handiest, most successful and best plan in existence, tog ther with the alsence of rain and the presence of sunshine, llows the vines to grow uninterruptedly, vhile weeds are easily kept-out. Ground quirrels, which are so destructive to vineyards in Coutra Costa, are here very scarce und in many places are absent altogether, A few rabbits get in, but they are kept pretty well killed off by the farmer boys, who are generally encouraged by the bestowal of a bounty.

Mr. Cory appreciates the henefit of a country life and seems to have a way of persuading vines and trees to grow in an astonishing way. He eredits his success to the wonderful climate and soil of sub-irrigated Fresno, but we think Mr. Cory is an artistic and practical vigaeron.

### What One Man Can Do.

A French physician named Raoul, who long dispensed drugs on a man-of-war, finding life very dull on board ship, stepped outside his professional line a while ago to distinguish himself, and the results have been so noteworthy that the Paris Seciety of Commercial Geography has just honored him with one of its medals. It occurred to him that the useful products of Tuhiti, that arge and lovely island of the Society Group in Polynesia, could be greatly increased by other countries. So he laid a considerable part of the world under contribution, and in course of time many hundreds of foreign plants were doing their best to take root in the soil of Tahiti. Among his collections were rubber trees from Madagascar, ebouy, teak, and red cedar from Australia, tobacco from Java and the Rio Grande, cotton from Georgia, hemp from Manila, cinnamon and nutmegs from the Maly Archipelago, grapes from Madeira and Teneriffe, coffee Irom Formosa, and a very large variety of grasses and fruit treea. He established a nursery near the chief town of Tahiti, and he has already proved that the larger part of his plants will succeed in this favored island. Grape culture, which he introduced, is already beginning to enrich the country, and man alone the aspects of the vegetable kingdom in Tahiti are undergoing a remarkable change for the better.

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#### A PROBUBITION TONIC

In the manufacture of patient medicines, says the Boston Journal of Health, there are degrees of basen as just as in every other illegitimate business. The man who puts up a simple tonic costing a few cents per quart and advertises it as a cure for all diseases, is certainly bad enough. He robs the innocent purchaser, to be sure, but only of his money. Of a much greater crime are those guilty who put a deleterious or poisonous drug in their nostrams, for they injure their victims both in health and poeket. But either of these characters are innocent lambs, compared to the one who, under preteuse of enring a victim of the opium or liquor habit, puts into his hands as a remedy for his disease a preparation containing the very substance which has eansed his downfall. One can hardly find words adequate to describe anch a monster and no exertion should be spared to expose his fradulent preparations. Only men who are lost to all sense of shame can engage in such netarious business; and when we find a woman who lands herself to such a trade, what must we be forced to think of her? When women, to whom we turn for uid in our hour of sickness or affiietion. offers us the poisoned cup under the pretext of ministering to our wants, then indeed, must we ask, "Is not our boasted civilization a failure?"

Let us see whether there is anything to condemn in the various preparations of Harriet Hubbard Ayer.

These preparations appeared quite suddealy upon the market, with lavish advertising accomponied by testimonials from well known men in all walks of life.

The following extract from the circular accompanying "Vita Nuova" will show the claims made for this nostrum:

This tonic is nothing more less than a wonderful remedy prepared from the prescription of one of the most eminent physicians in New York City, just exactly what he would give you if you needed a tonie or were troubled with any of the symptoms below enumerated and went to him for advice. This prescription was given to Mrs. Harriet flubbard Ayer when she was very ill, as it has been given by the same physician to many other overworked people on the verge of nervous prostration. Mrs. Ayer now offers it to you unchanged in any way, excepting that when Mrs. Ayer commenced to manufacture it for sale, she discovered that one of the ingredient, which is very expensive, is invariably adulterated. She went to first hands at once and made arrangements for a supply of this ingredient, which should be absolutely pure, as she is determined to maintain the quality in every ounce made. Go to the nearest drug store and hug a bottle of Vita Nurva (New life.) You will find that it tastes like a wine thirty years old, while positively free from alcohol or nareotics, and purely vegetable, and without the reactionary effects which render many tonies worthless.

The eirenlar goes on to say that the medicine is the "best, surest and safest" for any disease due to an impoverished condition of the blood; and then follows this definite statement:

It is a sure Specific for the Alcohol and Opium Habit, as the vietim, by discontinuing the use of these articles, will, while taking Vita Nuova, escape the uncontrollable desire and longing for these horrible atimulants, and by exercising a little self

lutely free from alcohol and a sure specific for the alcohol and opium habits. Let us see how these claims are born out by ana-

A bottle of the Vita Nuova gives, on opening, the characteristic smell of wine, which is confirmed by the tasto and color. The liquid contained 18.75 per cent. of alcolol by volumu, and 12 per cent. of solid residue on evaporation, which consists mostly of sugar. This residue tested by all the reagents for the various alka loids gave no reaction, showing that the liquid is essentially port wine. But we can go further than this. From certain peculiarities of the residue it is evident that an attempt has been made to obtain a wine of some tonic property. But from the ignorant or faulty method of preparation, so small a quantity of the drog or drugs used remains in the finished product that it fails to give a reaction sufficiently distinct to identify it even with the most delieate reagents.

Comparing the amount of residue and its character with that obtained from genuine imported port wines, it can be safely said that the wine used is native port, which may mean any strong sweet wine colored to imitate the genuine article.

Here then is the famous tonic which elarifies the mind and stimulates its action, according to Delaney Nicoll; which brings peace and hope, according to Prof. David Swing, the divine; which is "well named new life," necording to S. S. Cox; and which, in the words of Hon. Jacob Hess, is the most exhilarating non-intoxicating tonie I have ever tried! Lawyer and elergyman, diplomat and politicion, all join in singing the praises of cheap wine as a panacea!

But, seriously, can any one believe for a moment that these men ever lent their names to such a monstrons swindle? Whoever was bold enough to conceive and carry on such a trade, would not hesitate to use anybody's name or fame, if he thought it would advance his interests. Knowing that no law can reach him, he continues on his path of deccit and thus he will continue until his patient and longsuffering vietims rise up, join hands with their brethren, the dupes of various other quaeks and quaek medicines, and secure the enactment of suitable laws by which these sharks may receive their just deserts.

But to return to our Vita Nuova. As al ready quoted from the eircular, this article is claimed to be positively free from alcohol. Compare this with the 18.75 per cent alcohol found by analysis and comment is unnecessary. This is a straight out and out misstatement, and when the quantity recommended is taken into account, is quite capable of producing intoxication, The dose is three tablespoonfuls or an ordinary wineglassful three times a day. Now as this "tonie" contains about one-rifth of is volume of pure alcohol, this nine tablespoonfula would equal nearly two tablespoon. fuls of atcohol, or more than a wineglassful of straight whiskey!

But this deception sinks into insignificance when we take up the next claim for this nostrum. "A sure specific for the alcolol habit." Imagine for a moment a victim of alcohol. who has by sheer force of will given up the intoxicating cup. He reads in the newspapers of this wonderful tonic, which is so highly recommended by well-known people, control for a short time only, will find him- and hopes at last that he has found that farmers to look into.

self entirely cured. Here we have direct which will restore his shattered nerves. The claims made for the "tonic," that it is absoremembered feeling of by-gone days, and trusting to the statement that it is non-alcoholie the innocent viction sinks once more into his old habits, a victim to thosremorseless robbers. Such a picture appears very sad to the reader, but he soon forgets it, unless he has, like the writer, had personal experience of just such a case, which was not, however, with the nostrum under discussion. It has always been a question among lawyers, how far the claims of patent medicine quacks offer ground for a eriminal prosecution. "I'nfortunately, however, there can be people who for a consideration, will swear they have been eured by this man's "Sarsaparilla," or that man's "Discovery," or some other "medicine," and afford a loop-hole of escape from the responsibility of the articles. But in the ease of Vita Nuova no such escape is possible. The distinct claim is made that it is non-alcoholic, and the invalid relying upon that statement pays his dollar for that which he corld purchase in any store for one quarfer that sum. If this is not obtaining money by misleading the public, it comes so near to it that no reasonable man can see any difference.

> The other articles of this same list-"Recamier preparations"-bave also been subjected to analysis, but as the space allotted for this week has already been overrun, the results will have to be deferred until the next number of the Journal. Two of these preparations contain a deadly poison, corrosive sublimate, which is forbidden to be sold in this State without a physician's prescription, and every reader of the Journal is eantioned most strongly against buying any of these articles.

### A PROFITABLE TRANSACTION

Boyd & De Vine has purchased of S. C. Evans his raisin crop, comprising 105 acres, for the round sum of \$10,000 on the vines. This is about \$100 per aere. We understand from Mr. Evans that it has cost about \$25 per acre, ger year, for water, care and cultivation, leaving \$75 net per aere. This price was based somewhat upon the yield the past two years, which has been something over 8,000 boxes.

The erop this year is very fine in quantity and quality, and at least from 25 to 50 per cent larger than before. Mr. Exans says that after examining his vineyards thoroughly, and finding the buyers were paying \$17,50 per ton for small ranches, and wishing to avoid the trouble and aunoyance attending the picking, curing and packing, he made up his mind he would sell his crop for \$10,000, and if no purchaser took him at this price he would sell at the best offer per ton on the vine. He submitted this proposal to the several buyers and received bids at from \$18 to \$20 per ton on vines. Boyd and De Vine closed at the shove price for the lot.

Thus it will be seen that experience gives a criterion for estimates of production so as to bring buyer and producer together. Mr. Evaus says that the fruit merchant should handle the grapes from the time they are picked, so as to insure proper curing, assorting and packing. There is quite a quantity of land yet in Riverside which can be purchased for \$250 per acre. with the best water-right in Southern California, which in five years can be made to produce equal to this deal of Mr. Evans. Here is a pointer for some of our enatern

#### BLACKROT AND MILDEW,

Information recently received from Vineland, New Jersey, is to the effect, that the experiments which have been conducted the present season on Colonel A. W. Pearson's fruit farm under the supervision of the United States Government, have resulted in some valuable and important discoveries, particularly regarding the culture of the grape. Professor Scribner of the Agricultural Department, who has spent some days there, expressed satisfaction as to the results already attained. It has been demonstrated that spraying the vines frequently with a solution of sulphate of copper and lime, known as "Bordeaux mixture," will effectually prevent both mildew and black rot. The apraying was begun on the Pearson farm on May 28, and effectually prevented the rot where the einsters were exposed to the spray. Microscopie examination revealed the fact that the berries, after spraying, were encased by a metallic coating, which protects the grape until washed off by heavy rains or eracked by growth. The department recommends that the apraying be commenced a week or two previous to blooming or about the Middle of May. Experiments are being made with a view to finding preventives of fungua on the foliaga of apples, pears and cherries. The "Bordeanx mixture" is prepared as follows. Dissolve 1ú lbs, of snlphate of copper in 22 gallons of water; in another vessel slake 30 lbs, of lime in six gallons of water. When the latter mixture has cooled, it is slowly poured into the copper solution, care being taken to mix the fluids thoroughly by constant stirring. It is well to have this compound prepared some days before it is required for use. It should be well stirred before applying. Some have reduced the ingredients to two pounds of sulphate of copper and two pounds of lime to 22 gallons of water, and have obtained good results. Well made pumps with specially constructed nozzles are required for the applieation of this compound, unless we resort to the tedious and wasteful method of using brooms or wisps made of slender twigs, which are dipped into the compound and then switched right and left so as to spray

### SUMMER DIEF

The best diet for hot weather is one composed chiefly of fruits, grain and milk. An orange or two before breakfast is an excellent means of preparing the stomach for morning meal, as it cleauses away the mueus with which the mucous membrane lining the stomach becomes covered when it has been empty for some time. Two meals are amply sufficient for the majority of persous, in the summer season. If anything is taken is taken at night, it should be but very little,-a large fruit, a glass of milk, a little rice with milk, or something equalsimple,-and that should be eaten early, We should remember that during the summer season less food is required than during the cold weather, when so much food is needed to be used as fuel to maintain the heat of the body, -Good Heath,

THE Gilroy Gazette says that parties in that section interested in the scheme of drying wine grapes, as a mode of escape from ruinously low prices, are feeling enconraged by the fact that a large fruit firm of San Francisco has a representative in the field offering 3 cents a pound for dried grapes in advance. This is thus to \$20 per ton gross for the undried grapes.

#### THE LIMIT OF ALCOHOL.

The limit of alcohol allowed for officinal wines is 12 per cent. by weight, which appears to be confirmed by the examination made by the National Department of Agriculture, at Washington, which publishes the following statement:

Any wine with a higher percentage of alcohol than fifteen per cent. by volume (twelve per cent. by weight) can be safely declared to be fortified, for it has been shown that fermentation is arrested when the alcoholic content reaches about that point.

Notwithstanding this statement, it is not uncommon to find wines in which the amount of alcohol found is frequently as 20 per cent. by weight, and occasionally a higher amount, instead of 12 per cent.

Attention is especially called to the statement of the analyst of drugs with reference to this subject.

From the report just quoted it appears that adulteration of wines has kept pace in this country with the rapid growth of their production.

The comparative consumption of American and foreign wines in the United States is shown by the following figurers:

WINES CONSUMED IN THE UNITED STATES.

Year Ending June 30.	Wines of Domestic Product	Imported Wices entered for Coosumption	Total.
	Gallons.	Gallens.	Gallons.
1840	124,734	4,748,362	5,873,096
1850	221,249	6,094,622	6,315,871
1860	1,860,008	9,199,133	11,059,141
1870		9,165,549	12,225,067
	23,298,940	5,030,601	28,329,541
1886	17,366,393	4,700,827	22,067,220

The following table represents the percentage of adulteration found in wines ex amined by the State Board with referance to the requirements of the Pharmacopoia;

The two latter items do not necessarily represident the same samples.

Upon this standard all of the samples of port and Madeira examined by the analyst of the Board were found to be fortified. without exception.

The Board receives the valuable monthly reports of the Paris Municipal Laboratory, giving the summary of their examinations for each month, From these reports the following table is complied, which indicates the extent of adulteration found in the wines offered for sale in the city of Paris

469
13
29
32
329
894
530
261
1250
3542
Total

The following authentic information relative to the adulteration of sherry wine is copied from a recent letter written by the Mayor of Jerez de la Frontera, the seat of the sherry wine district:

It is a fact that more butts are exported every year under the name of sherry than the district producers, and yet the legitimate product has no sale, and the spurious wines usurping their titles injure the fame acquired through centuries.

The great variety of brands of complex mixtures of names and imitation, has introduced the greatest confusion in the business. Certain cellars look like mysterious laboratories, whose secrets nobody is allowed to penetrate, and hence comes that infinite amount of prices. What can be assured is, that the finer grades-the genuine sherry—have necessarily only to maintain a value which will never allow it to become confounded with those liquids which are to-day the principal brands for exportation.

The subject of the importation of German alcohol and its use in fortifying Spanish wines is further mentioned in the report of Consul Ingraham, who states that German alcohol is inferior in quality to Spanish alcohol and has driven all other alcohol from the market throughout Spsin, the amount of its importation being \$12,000,000. It injures the reputation of Spanish wines for purity, and affects the general health by their adulteration.

THE DISTILLED LIQUORS OF THE PAARMA COHŒIA.

Of the twenty samples of brandy and whiskey which were examined, one only, and that a sample of whiskey, was found to conform to the requirement. (Later examinations, made since October 1, have shown considerable improvement with reference to the quality of whiskey examined.)

The following statement, made by an expert, confirms the experience of the analyst of the Board with reference to brandy as sold to the consumer, and the statement nufortunately applies to the pharmacist as well as to dealers in liquors:

The term "brandy" seems to be no longer applied to a spirit produced by the fermentation of grapes, but to a complex mixture, the alcohol of which is derived from grain, potatoes, or, worse of all, the refuse of the beet sugar refineries. It would seem to be fairly impossible at present to purchase a pure cognac, as each individual proprietor of a vineyard has become a distiller and compounder. He has acquired the art of imitating any special flavor or vintage of brandy that may be called for. Potato spirits and beet alcohols the most deleterious and obnoxious of all the varieties of spirits are sent from Germany into France in vast quanties. These are flavored, colored and branded or labeled to meet the wishes of American connoisseurs. The mers fact of coming out of bond, or "straight through the custom-house," generally accepted here as sufficient evidence that they are pure and genuine. It is rather unfortunate that physicians themsetves frequently strengthen this hallucination in favor of imported spirits by giving the most stringent orders to the patients to procure genuine French cognac, even though it may command tenfold the price of an absolutely pure spirit of domestic production. This imperative command becomes a cruel injustice in the case of poor

French brandy in preference to pure domestic spirit?

As a general rule the druggists throughont the State, have shown a commendable desire to conform to the requirements of the laws relative to the sale of drugs, and the result has been a gradual but decided improvement in the actual quality of drugs as sold by them throughout the State,

The following list comprises the articles with reference to which notices were issued to retail druggists, informing them of the fact of adulteration:

Articles Adulterated, on Account of Which Notices Were Sent.

Olive oil
Oil of juniper6
Oil of cubebs2
Tincture of n 1x vomica 11
Tincture of opium4
Compound spirits of ether.6
Spirits of nitrous ether 4
Potase um, iodide3
Potassium, bitartrate2
Saccharated pepsin3 Red vice9

White wine ..... Port wine..... Brandy..... Sacchorated carboo-

Total ..... 69

#### PROSECUTIONS.

The whole number of prosecutions dur, ing the year ending September 30, 1887were 64, nearly all of which resulted in the conviction of the parties.

There were also seven other cases in which the evidence of guilt was sufficiently clear, but warrants wers not obtained, either in consequence of inability to find the offenders or for other reasons of similar nature.

#### MEXICAN SUGAR.

It is said that Mexico, were its agricul tural resources properly developed, is capable of producing sugar enough to supply the entire world for ages to come. The soil and climate are said to be particularly adapted to the perfect growth and development of the cane. If the duty on sugar should happen to be repealed by Congress as is proposed, a large trade may grow up between this country and Mexico. At the present time, England takes nearly threequarters of the sugar exported from that country. The backwardness of the Mexican sugar production is said to be caused by not only a lack of capital but a want of proper transportation facilities. At present it is carried on mule back across the country which primitive style of traffic is slow, laborious and unprofitable, and on account of the erudeness of the machinery and methods of production the sugar is of very inferior quality. Large areas of land in Mexico are said to be particularly suitable for the cultivation of cane. On table lands where irrigation is possible it may be made to grow very luxurishtly, while down near the ses where there is plenty of moisture it is thought that sugar can be raised cheaper than io any other part of the world. It is said that with proper appliances it can be made at a cost of less than one cent a pound. What the people need is improved machinery and more economical methods of manufacture. At the present time the cane is ground between wooden rollers, turned by horse power, very much after the style of the old New England cider mill, which does not extract half the juice. Mexican sugar is not refined, only brown sugar being used by a large proportion of the natives. Brown lump sugar, a staple article of consumption there, brings from 10 to fifteen cents a pound retail. There ought to be a good profit for some enterprising American who has sufficient patients. Under the best of circumstances capital to go into the sugar manufacturing what is there to be gained by the use of business in Mexico .- Grocer's Criterion.

#### SUMMER PRUNING.

Heavy summer-pruning, or lopping off lcaves and branches after a good growth has been made, -ays the Country Gentleman, always checks more or less the vigor of the p aut, and if the rubbing off of the supernumerary shoots has been attended to early in the season, very little more will be required than merely pinching back the tips of such shoots as are likely to occupy too much space. There must be a sufficient amount of foliage to feed well the growing fruit. We have seen a vineyard ruined by cutting off shoots and leaves, under the mistaken view of letting in sun-hine on the grapes. It is the leaves that need the sunlight, and not the fruit. It is better to give too much vino and foliage above the grapes than too little. But there should not be so much as to present a crowded mass of leaves. As a general rule, the hardy, free-growing varieties should be so pruned as to leave the strong bearing shoots about a foot apart, more or less, which will give room for the fully developed leaves without crowding. Therefore, as early in the season as the new shoots have made an inch or two of growth, all those likely to prove supernumeraries should be rubbed off, leaving room for the remainones to grow. This is easily and rapidly done, "Lopping all shoots to two leaves, according to your mode, is not giving ample foliage, and if you cut away much that is already grown, you do a serious injury. It would be better to permit too dense a growth than to give his check, but best of all is not to allow enough shoots to grow so as to crowd each other. Some vines, however, will possess more natural vigor to withstand this treatment than others. The same principles apply to trimming trees, slthough 'preserving the equilibrium'' is a separats matter, as vigor may be given to a lop-sided tree as well as to an upright one, if properly treated in other respects.

### BARRING THE BAR.

The Viticultural Commissioners have hit on a plan by which they can overcome the objection to the proposed Plstt's Hall exhibition. Every saloonist in the vicinity of Montgomery and Bush streets protested against the exhibition, on the ground that a bar was to be annexed, and they got an opinion from the Attorney-General, to the effect that the Viticultural Commissioners could not have a har.

The bar will not be opened. As now proposed, every vinegrower, wine-maker, rsisin producer or merchant, will have the right to exhibit his productions and wares in the hall. Viticultural machinery models can also be exhibited. If any one making a display desires to sell his goods, he can do so in a roundabout way.

A catalogue embracing every sample is to be made up and corrected at least every month. A wine producer having a stock of wine can have his name, address, the location of his agent in San Francisco and the quantity of wine as well as the price, placed on this catalogue. Any one desiring to purchase wine or raisins can go to the exhibiors and select by sample. will be made by the exhibitors and not by the commission, and a price will be set on the samples so high that the saloonists cannot complain that the exhibition is compet-

ing with them.
This plan meets with the approbation of This pian meets with the approbation of the dealers and growers. The hall will be vacated by the gambling concern which holds forth at present on October 25th, and soon afterward the exhibits will begin to sr-

#### EARLY PRINING.

At the opening of the fair in Los Augeles last week, Hon, L. J. Rose in delivering the address as president of the association, referred to the mysterious dying of grape vines at Anaheim and other localities as follows:

"As regards the disease, which is killing our groups vines in some localities, it is the more annoying, as no satisfactory reason can be given which accounts for it. Dig up a vine which has died, and the bark and wood, both in the roots and top of the viue, are entirely free from imperfections or marks, no insect, no decay, in fact, no occult reason can be given. Professor Morse, of the university, who was sent for to make examination, found nothing, and gave it as his belief that it was caused by violent changes of temperature, a very hot time of weather following a cold foggy time, thus causing an exhausting of the stock of the plant than it was prepared for. There would be some plausibility sbout this, were it not a fact that we have never had such trouble for over a hundred years. It might be possible to believe that one such accidental year might come where the change from cold to hot were exceptional, and thus have this trouble that one year, but the trouble about this matter is that this condition of the vines dying is repeating itself each coming year, and it has now repeated itself for, say five years, and each succeeding year the damage has increased more each time. It is not, therefore, an accident that has come about for one year, but one that repeats itself every year for the last five years. Now, this would not likely be the case, nor can it be believed that this one year has planted this disease and time completed the harm done, for it is a fact that Anaheim was affected first, followed by, perhaps a year later, by Santa Ana, and subsequent to that time it has made its appearance in San Gabriel valley.

"I have studied over this matter much and tried to form some theory why this is. There is one circumstance which may possibly explain this singular phenomenon, namely: Too early pruning. In years previons to the appearance of this disease praning was never done until the vine had shed all its leaves. At Anaheim I first saw pruning done as soon almost as the grape crop was gathered, and even as early as October. It being convenient, I too followed in the practice and again followed me, and with no immediate evil effect. It is true that vines thus early pruned were were the last to bud out the following spring, but as there was no enfeehled condition of growth, when the vines did start. it was a condition of affairs to be desired. for it made less risk to the crop of grapes by being overtaken by a late frost. Yet that there was an effect was clearly shown by the lateness of the vine putting forth their new growth. Again, Ansheim was the first to practice early pruning, and was the first to suffer from the vines dying. Santa Ana would naturally, being adjoining, be the next to follow the practice and was next affected. Sunny Slope, my former home, was the first to suffer in the San Gabriel valley, and was the first to practice the early pruning. All these facts may be only coincidents, and may not be the cause for accounting for this disease, yet when no satisfactory reason has ever been given, it may be well to postpone

and until all the leaves have naturally been shed by maturity. To prone in October and November, nearly all the leaves are yet held fast and many of the ends of shoots are yet making a feeble growth. It is, of course, a well known fact, that the stripping the leaves of the most robust growth of any tree or plant if often enough repeated will kill such tree or plant. It is true, in October and November leaves of the vine have unturally performed their duty, and the wood is hard, yet it may be after all, this early pruning followed for a few years, in the end tells on the life and health of a vine, and has the same effect, only more slowly and less apparent than the stripping the new haves has an immediate effect on all plant life.

#### THE VINE AND ITS FRUIT.

(Continued from Page 148.)

Continuing the subject in the Fineyardist, Dr. J. H. McCarty says: In the old sculptures showing the process of treading out the grape juices, a group of men are seen substantially naked holding to short ropes, fastened to a beam over them to euable them to preserve their equilibrium, and work with greater ease. The treading was accompanied with singing or "shouting," that is, some sort of monotonous refrain, like that one hears on ship-hoard when a gang of sailors are hoisting the canvas. These vats were sometimes hewn out of the solid rock. The prophet Isiah wrote in the fifth chapter, second verse, of the wine press: "He made a wine press therein." Literrally he hewed a wine press. So Jesus says in Matt. 21:23: " He digged a wine press in it;" that is, hewed it out of the rock. It must have been that these aucient "treaders" of the grapes had cleaner feet than the average vinyardist of the present time, or that the wine drinkers were a good deal less fastidious than nowwhich?

Chamber's Cyclopædia is authority for the statement that in some of the winemaking countries of Europe it has been a custom to have to have "a naked man go into the wine tub, who accomplished the necessary stirring and promoted fermentation by his animal heat. Several persons have been killed in this way by suffocation from the atmosphere of carbonic acid gas."

The glenkos or mustern, or in our language "must" which ran from the grape iuto the vat by natural pressure was usually, even among the Greeks and Romans preserved separately, and great care was taken to prevent its fermentation. The mode by which this was accomplished was to put it in a close vessel and sink it to the bottom of a poud for the space of a month

The juice obtained from pressing was often boiled down instead of being allowed to lerment. It was so common s process in all socient wine-making regions that places were filled up for the purpose and were estled defrutaria (singular defrutarium.) The wine thus inspissated-"boiled down." reduced to one-half of its original quantity, was termed defructum. Frequent mention is made in the bible, as well as in classical writing of a kind of boiled wine or syrop, the thickness of which rendered it necessary to mingle water with it either hot or cold before drinking, Solomon wrote of the practice where he commends

prinning as was practiced in former years hath also furnished her table-Come, cat and far better than 1 could do it at great of my bread and drink of the wine, which I have mingled " Everywhere he councils against wine drinking. So this was awest wine, the unfermented juice of the fruit of the vine, which was not only harmless, but nourishing, and good to which he refers. There was also "mixed wine," made so strong an incbriating by the addition of drags, such as myrrh mandrapor and opiate, that nobody but au nawise person could be induced to drink it.

"Who hath woe? Who hath sorrow? Who hath contention? Who hath babbling? Who hath wounds without cause? Who hath reduess of eyes?

"They that tarry long at the wine; they that go to sdek mixed wine."

Some mixed wines are harmless as that of the inspissated juices of the grape and water, or milk as Solomon commends, but others are barmful-harm begins with the love of "strong drink," and at last they who indulge to great excess, are described as "mighty to mingle strong drink." Blessings come to the man who eats the grape, who drinks its pure and wholesome juice, but a curse is on him who becomes a victim to the cup which contains "strong drink,"

"Woe unto them that are mighty to drink wine, and men of strength to mingle strong

### PREPARING SOIL FOR GRAPE VINES.

Judging from my own experience, says D. S. Marvin in Popular Gardening, I think that the roots of the vine need to penetrate the sub-soil. I am aware that of late it has been recommended and practiced to set out vineyards on a cheap scale without trenching or sub-seiling.

This, in my judgment, is the chief reason why the vines suffer so much from sporadic diseases. The roots being too near the surface are subjected to all the changes and vicissitudes of climatic conditions, while if set deeper they would receive the protection of a deeper soil against andden changes.

An experiment that I made a few years ago saves so much of the heavy expense of sub-soiling, and has proved so satisfactory, that I can safely recommend it to vineyard planters. It is so simple and applicable to all varying conditions, that no one need hesitate about adopting it. I simply plowed and cleaned out trenches in the fall as steep as their sides could be made, eight feet apart and twenty inches deep, set the vines in the trenches in the following spring and filled them in again mainly with the plow.

The reason for auccess in this experiment of fall trenching is found in the action of frost during the winter being enabled to penetrate the sub-soil deeper than it could otherwise do through the means of these open trenches, thereby fining and comminuting the soil and subsoil and bringing up to the surface some of the lost fertility of past ages. I found to my great surprise that before the frost had gone out of the ground the trenches were deeper or he ridges were higher in the spring than n the fall, showing that the frost had penetrated from the trenches sideways into the soil of the ridges, heaving and loosening it much deeper and fining it as I had never before observed, under any other conditions. I found that I had been utilizing this early pruning and go back to the late wisdom. 'She hath mingled her wine; she the forces of nature to do my work free and quick market for the stemmed grapes

expense myself with steam and sub-soil plows.

Subsequently it was shown that as the roots of the vines spread out and grow the feeding roots at the ends gradually rose a little as they approached the centers of the rows, and that occasionally the plow in the subsequent tilllage of the vines cut off the ends of a few of these feeding roots, but I could not perceive that this was a serious injury, for new and more branching roots were sent out from the severed ones the next season, and I imagined that it had reinvigorated the vines, and caused them to grow more inxuriantly, but could not express a positive opinion as to this, without more experience and observation.

Another point gained was, that in the spring I did not have to dig holes to set the vines at a busy season of the year. The holes were already dug just the right depth. The fine top soil had fallen in from the sides of the ditches, making the very best possible conditions after strewing a little phosphate, ushes and bone dust in the trench, for the fine subsequent, healthy and vigorous growth obtained, and I found that I could work the soil some two weeks earlier than that not trenched. I actually set the vines while there were yet frost in the ridges, the soil working dry and mellow.

### RAISINS IN RIO GRANDE VALLEY,

By experience of successful growers, it is demonstrated that wine grapes of the mission variety, which is as yet that principally grown in the Rio Grande valley, lose in drying about 31/2 to 1: that is it will take 314 pounds of the fully ripe grapes to make one pound of raisins. A ton of grapes therefore, will make about 615 pounds of dried grapes. These should not cost more than 1/2 cent per pound to dry in the sunsay \$3.07 on 615 pounds, and the product if care is taken in gathering and drying, ahould be worth here at home, from 5 to 8 cents per pound-or at the average of those sums, 614 cents, a total of \$39,97. Is not this much better than selling the fresh fruit to wine makers and middle men at 1 and 11/2 cents per pound, as was the case last year with many growers. No deduction is made in these calculations for picking, as would have to be done in either event; sud deducting the cost of drping, the net result would be, say \$36 90 for the ton of fresh fruit reduced to dried. Properly dried the grapes will keep indefinitely.

The Fruit Grower, in an excellent article on this subject, says that in ease of drying let the grapes get fully ripe, when a'l the saccharine will be developed, experienced hands laying them upon the ground when cut from the vine. Upon the ground they will dry until the rainy season without turning, but the safer plan is to dry on trays, which permits stacking in case of rain, and rain is almost a certainty before the whole crop is fit to pick, or can be dried. If dried on trays, the misius should be turned as soon as the upper side is dried. Place an empty tray over a full one and reverse them; this turns undried side up to the sun. When fully dried on both sides, they should be taken from the fi ld whilst stems are dry and brittle, and run through stemming machine and then through a fanning mill to blow out the stems. When cleaned, pack into new white, cotton sacks. A few choice bunches are wanted in boxes as cheap raisins, but usually they will not puy for the extra cost, whilst there is a sure



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FRIDAY......AUGUST 31, 1888

THE Viticultural Exchange is now an as sured certainty. Alt hitches have been emoothed over, and with the exception of bar privileges the Commissioners have carried every point. The whiskey men in the vicinity saw diminished profits ahead when the pure wine began to flow, and raised such a storm of opposition that it was deemed prudent to drop the subject altogether, rather than have any delay in the plan of creating a renewal of interest in the industry. The Viticultural Commismust be congratulated on the new departure. It will benefit the wine-growers, by bringing his products more directly before the public, while at the same time giving the latter an opportunity to become ac quainted with the wine-making resources of the State, in regard to which nine-tentha of our people are to-day in painful ignorance. A permanent display of fruit wines and machinery will be an attraction to many visitors, and a standing advertisement for the State. It is also proposed to arrange for regular meetings of vine-growers, and for discussions on popular or viticultural aubjects. Everything, it is hoped, will be in running order about the middle of October.

WE ARE in receipt of an invitation and ticket for the Indiana State Fair, which will open in Indianapolia on September 17th. The omission to enclose the customary railroad pass for self and lady friends at the same time, interferes with the nc ceptance of the courtesy extended by the State Board of Agriculture, owing to the atrained relations which axist at present between this office and the local railroad interpretate of the inter-state law, on the aubject of free passea. Recognizing the extreme liberality of the Indiana officials in comparison with our own Fair people, who require three months coaxing before they will give up a pasteboard on any pretense, we feel almost bound to attempt the trip on a bluff game with the showy ticket, which might pass all right with a short sighted conductor. Not to he outdone in generosity, and in a spirit of reciprocity, we herewith extend an invitation to the Board for a dinner to be given in their honor on the 17th prox. Better take unlimited tickets.

The project of curtailing the output of wine is growing in favor among the grape-growers of the State. That one portion of an industry should prosper at the expense of another is not a satisfactory condition of sffairs by any means, and those who suffer by it are now beginning to realize the situation into which they have been drifting for years. The grape-grower is now forced to act in self-protection, and either previde a remedy or get out of the business altogether.

The cry of over production must be received with some hesitation, when it is recollected that a recent estimation from a reliable source, places the annual consump. tien at 32,618,290 gallous. According to Chas. A. Witman of the State Board of Viticulure, the present output of California wine would only supply the United States at the rate of one-third of a gallon per capitn annually, while France is credited with the consumption of thirty gallons. If our demand were increased to only one-half the latter estimate, the requirements for home purposes alone, would exceed 900,000,000 gallons a year. It is only fair to assume that the average of consumption will imcrease yearly in addition to a growing foreign demand.

With such a prospect ahead, it would be a serious mistake to get discouraged at this early date. As our wines become more widely known throughout the Eastern States, they will supplant to a great extent the distilled spirits and malt liquors which are now consumed annually at the rate of 71,064,733 and 717,748,854 gallous respectively.

The price of grapes and wine has been forced far below a point which will guarantee a living to those in the business, and the plan now generally adopted, of drying at least one-half of the present crop, will materially assist in giving a more healthy tone to the market in the future.

The Viticultural prospects are good in New York State and many crops of grapes are heralded as approaching maturity in the Chautauqua section, and also in the Hudson River Valley-one third or more increase being estimated over that of last year. And this is true, or nearly so, of the Western New York grape region of which Penn Van is the center. If the fruit now on the vines, along the slopes of Lakes Seneca, Keuka, Canaudaigua, and in Pleas ant Valley, Vine Valley and Naples Valley, come to maturity without harm, and fully ripen, it will be one of the most successful grape and wine seasons, say nothing of prices, that this fruitful vineyard region has ever witnessed since the industry was started over 30 years ago.

MESSRS. ISAAC DE TURE, Charles Krug John H. Wheeler, H. W. Crabb and J. De-Barth Shorb, constituting a special committee appointed at the last meeting of the Grape Growers' and Winemskers' Association have formulated a circular to vineyardista to apread broadcast over the state advising the drying of all Mission and Malvoisie grapes grown this year. The dried grapes are to be sold in the East, leaving the better variety for wine-making. By this means it is hoped to make a better price for all medium and good wines. The committee have also taken steps toward erection of a distillery where all inferior wine on hand can be made up into brandy,

The vinegrowers, as a rule, are favorable to these measures, and the committee anticipate early co-operation.

SEVERAL CARLOADS of dried wine grapes were sent East last year and sold for three and four cents a pound. An eastern dealer who took many of these grapes is now in the city. He aunenuces that he will take all the dried grapes he can get for three cents a pound. It takes a little over three tons of fresh grapes to make one ton of the dried product. Dispatches sent from Sacramento to eastern dealers a few days ago brought responses that show a fair demand. Sgobel & Day of New York wired that dried grapes for distilling would bring two cents a pound. Blake & Ripley of Boston said they had a limited safe at four and five cents. From Chicago the Porter Brothers Company have sent word to Henry Weinstock that the direct product would sell readily for five cents a pound,

Tons and tons of grapes, is the descripgiven by Farm Vineyard of the crop at Chautauqua, in New York State. The outlook for the grape crop along the lake shore continues good and the growers feel jubilant. The gross tonage will exceed that of any previous year, and the fruit promises to be exceptional fine in quality. The "herries" are targe in size and the vines all aummer long have shown much vitality. The majority of the crop will be sold through the commission houses for table use, but the growers realize that the acrenge is steadily increased, new markets will have to be secured or else wine making will be extensively engaged. In years to come Northern Chautauqua may reasonably be expected to out-rival the wine-producing localities of California. Even unfermented wine is gaining in popular taste, and large quantities will be manufactured this fall for home use.

Expoaters of wines at Barcelona have signed a petition in which the Government is urged to create bonded warehouses in which wines for export may be given the necessary additional alcoholic strength without such alcohol being subject to the new tax. The latter is highly unpoputar because injudicious, and protests are cropping up in all directious; at Tarragona the syndicate of dealers in alcohol have joined this movement hostile to new tax.

A BILL in Equity has been brought in the United States Circuit Court by A. S. Paré, against Bernard Toulouse and John Delorieux, for infringement on the wine and fruit press "Le Merveilleux." Complaintnatesk for a writ of preliminary injunction, as well us heavy damages. W. S. Batea, one of the ableat patent lawyers and experts of Chicago, has been retained as counsel in the case, and Measrs, Scrivner & Boone, attorneys-at-law, of this city, represent plaintiff here.

The Entonological department of the agricultural Commission ot Massachusetts, notes that the eau celeste (blue-water, a simple adultion of salphate of copper, with ammonia) recently recommended by this department as a remedy for mildew, at the same time rids plants of the Rose Beetle when they are so infeated. Col. A. W. Pearson, of New Jersey states that it not only saved his vines from injary by mildew but also rid them entirely of millions of these beetles, which were threatening to destroy the fruit and foilage entirely.

The Chicago market for California fruits is firm. The following are the latest quotations of grape sales: Muscata, \$2 30 to \$2 60c; Tokay, \$2 65.

#### INDIANA STATE FAIR.

The year 1888, although a campaign sesson, with so many and varied counter attraciions, does not diminish the interest which exhibitors take in the new worldfamed Indiana State Fair. At the present time the applications for space are far in advance of the usual number and flowing in at a rate never before equalled in the history of the exhibition. Exhibitors are advised through the newspapers of the extensive improvements going ferward on the grounds in the nature of a new race-course, which necessitated the purchase of twenty acres additional grounds that has been added to the already large area, making the Indiana State Fair Grounds one of the very best and most convenient in all its appointment of any of a similar character in the United States or Canada.

In addition an immense two-story amphitheater is approaching completion, ready for the opening September 17th. The new track is reported by horsemen, who have viewed and tested it as one of the choicest in the country, and magnificent apeed contests may be looked for this season, such as have never before been witnessed on the Indiana State Fair Grounds since its inception.

The twenty scres additional has been improved and the general appearance of the grounds so changed that it will scarcely be recognized as the same place. Considerable grading and tile draining has been done and water pipes laid through the grounds to insure the comfort and convenience of exhibitors and visitors.

The steady growth of the State Fair proves its importance as an educator in those matters which so interest and are indispensable to successful tarming.

### WHOLESALE MARKET.

Quotations given are for large lots to the whole

### CALIFORNIA SAISINS.

Halves, Quarters and Eigh higher respectively than who			cents
London Lavers, choice per b	ox	\$1 65@	1 75
Layers, per hox		1 50 a	1 65
Loose Muscatels, common, p		1 55@	1 60
Unstemmed " in sacks, pe	r fb	1 60@	
Stemmed " "			51/20 50
	. box	90a	
" bleached. "		@	• • • • •

CANNED GRAPES,

Grapes, Muscat, 2½ fbs. \$ 1 40@ 1 50. Galls. 4 50

The yearly manufacture of flour in the United States is about 75,000,000 barrels, of which 62,000,000 barrels are required for domestic consumption, and 10,000,000 to 13,000,000 barrels for export.

### AS OTHERS SEE US.

EDITOR MERCHANT:

Chicago, August 15, 1888.

\* \* \* \* \* As to the value of your paper I desire to say one appreciates its importance more at a distance, as useful it may seem inside the State of Cslifornia. A true representative of the great industries in wine and fruit of the Golden State.

Respectfully yours,

G. ZOLL.

Reports from different sections of Napa valley are to the effect that the grape crop has been seriously blighted by the late hot spell.

been seriously blighted by the late hot spell. Some estimate the loss at one-fourth. Some of the earlier varieties will require picking

### GRAPE GROP OF 1888.

Additional Reports Received by Clarence J. Welmore, Secretary of the State Viticultural Commission,

#### SAN DIEGO COUNTY.

Report of N. A. EATON, Encinitas.

No damage from frost. Very little damage from coulure. Twenty per cent, loss from mildew on mesa land near Pacific Ocean beach. In the interior the crops are good and they would have been here if the grape-growers had applied the remedies recommended by your Commission. Mission grapes a full crop. Moscats light, owing to mildew and ravages of birds, rabbits, etc. This year's crop will be about the same as that of 1887.

During our last year boom there was a rush of new settlers, and they are now sadly in need of Viticultural and Horticultural books in order that they may know how to successfully raise vines and fruit trees. I distributed several years ago a large number of pamphlets, bublished by your Commission, to the farmers in my district, and the result has been that more of them have been successful than they would have been without them, and thousands of acres of vines have been added to the wealth of the State. The benefit derived from the books distributed can only be estimated by thousands of dollars. Will always be pleased to distribute any reports von may send me.

Report of G. F. Meraiam, Escondido. No damage from frost. From ten to thirty-five per cent, lost from condure. Damage to cut worms in many vineyards amounts to two-thirds of the crop. From the vine hopper, which is beginning to be a general pest, the loss is not yet known. Clean culture in the winter, we think to be a certain remedy for cut worms.

None of our ranches will produce a full crop. This year's crop will be twenty-five per cent. less than that of 1887. The County will produce 25,000 gallons of wine.

### SONOMA COUNTY.

Report of C. G. JAMES, Forestville.

No damage from frost. No damage to Zinfandela from coulure, but twenty per cent. damage to Feber, Szagos and Burger. As nine-tenths of our vineyards are planted to Zinfandels the loss is very little. Zinfandel, Chasselas and Mataro a full crop. Burger, Feber Szagos, Tokay and Muscat a light crop. This year's crop will be fifty per cent. greater than that of 1887.

Report of James McDonnell, Jr., Sonoma.

No damage from frost or couldre. Damage from phylloxera about the same as last year. Zinfandel, Reisling. Tokay and Chasselaa n full crop. This year's crop will be larger than that of 1887. I estimate teat the County will produce 2,503,000 gallons of wine and 350 tons of table grapes.

Report of R. Sharboro, Asti.

No damage from frost. A loss of 10 tons from conlure, 50 tons from sun burn and 5 tons from army worms.

Burger, Grenache, Malvoisie, Zinfandel, Rieslining and black Pinot a full crop. Charbono and Muscat a light crop.

We will have 650 tons more than in 1887, and will produce 250,000 gallons of wine and 50 tons of table grapes.

SANTA CLARA COUNTY.

Report of J. B. J. POSTAL, San Jose.

No damage from frost, Fifty per cent damage by coulure to Charbono Ziufandel, Mataro, Carignan, Cabernet Franc and all white varieties, a full crop. Charbono, Merlot and Cabernet Sanvignon a light crop. This year's crop will be about the same as that of 1887, and I estimate it to be about 2,000,000 gallons. The vintage will be a little earlier than last season. The quality perhaps, better, according to weather. Wine-making facilities are being doubled to capacity of last year. There is a strong disposition on the part of growers to hold their grapes at \$20 per ton, or dispose of them by drying, etc. There is a sign that their efforts will be partially successful on account of the large increased facilities for wine-making and apparent prospects of short crop of well selected

Report of JONATHAN HAGUE, Gilroy,

No damage from frost. Ten per cent damage from coulare. Zinfandel, Charbono, Meunier, Chauche Noir, Pinot, Mission and Grenache afull crop. This year's crop will be twenty per cent greater than than that of 1887.

We are greatly in need of a winery, and before another season passes over our heads we expect to incorporate a co-operative winery on a small scale. Grape growing is long past the experimental stage. Some originals can be seen thirty-five years old, still yielding amazing returns without having to use fertilizers. Our remaining study and want of knowledge is what variety of plant.

### CALAVARAS COUNTY.

Report of J. H. SOUTHWICK, Milton.

No damage from frost or coulure. Slight damage from mildew and sunburn. Mission will produce a full crop. This year's crop will be larger than that of 1887. Old vineyards all planted to Mission grape. New vineyards to Muscat.

### ALAMEDA COUNTY

Report of J. H. TAVLOS, Livermore.

No damage from frost. Ten per cent loss from couldre or Muscat and Grenache.

No variety will produce a full crop, owing to the light rainfall during the year and failure to properly cultivate the vineyards during the summer months, and in some instances vers injedicious summer-pruning,

Do not think this year's crop will exceed that of 1887.

Report of C. C. Mclves, Mission San

No damage from frost. Five per cent oss from coulure.

Zinfandel, Mission, Charbono, Cabernet Franc, Merlot, Verdot, Semillon, Sanvignon Blanc, Palomino, Orleans Riesting and Franken Riesling a full crop. Malbeck, Cabernet Sauvignon, Johannisberg Riesling a light crop. This year's crop will be thirty-three per cent larger than that of 1887. Estimate that the Mission San Jose district will produce about 1,000,000 galof wine and 500 tons of table grapes.

### PLACER COUNTY.

Report of L. C. GAGE, Lincoln.

No damage from frost. Twenty per cent loss from coulure. Twenty-five per cent loss from sun burn.

Rose Peru, Mission, Chasselas, Malvoisie and Feher Szagos a full crop. Muscat, Zinfaudel, Tokay, a light crop. This year's crop about the same as that of 1887.

### EL DORADO COUNTY.

Report of WM. A. KBAMP, Diamond Springs.

Loss from frost estimated at from twenty to fifty per cent.

All varieties have a light crop owing to frost and ann hurn. Frost killed some vines on the 20th of May, and Flame Tokay were sun burned July 5th. This year's crop will be one third lese than that of 1557. Estimate that the county will produce about 14,000 gallons wine, 30 tons table grap, s and from 1,200 io 1,500 boxes of raisins.

Report of M. J. Allhoff, Coloma.

No damage from frost or conluce.

Catawba, Tokay, Mslvoisie, Green Hungarian, Mission, Burgundy and White Napoleon a full crop.

Zinfandel, Isabella and Muscat a light crop. This year's crop will be much better than that of 1887, but will not be as heavy as it ought to be. The wine crop will be fifty per cent less than that of 1886. About 60 tons of table grapes will be produced.

Taking into consideration the great damage done to the majority of our vineyards Last year by frost our grape crop will be short. Those vineyards that escaped the frost last year will have a good crop. Unless the hot weather moderates the san will destroy a great many of our grapes by burning them up.

#### CONTRA COSTA COUNTY.

Report of S. Fabjeon, Concord.

No damage from frost. Slight damage from confure.

All varieties except Tokay will produce a full crop. This years's crop will be thirty-three and one-third per cent greater than that of 1887. Estimate the production of the county at 1,500,000 gallons of wine, 2,500 tons of table grapes, and 7,500 boxes of raisins.

White grapes will be ripe one to two weeks earlier than in former years.

Since making out my estimate of the wine production for the coming season, we have had some excessively hot days, the thermomelor ranging from 104° to 112° in the shade. This extreme heat has dried up a great many grapes and burned the leaves off the vines. The loss to the crop from this cause during the pist week is estimated from 2,000,000 to 3,000,000 gallons and the total amount of wine made will not now exceed that of 1887, and the prospects are that it will be less.

If cool, foggy weather follows some of the loss will be recovered, but if the bot weather continues the loss will be greater than now estimated,

CLARENCE J. WETMORE, Secretary Viticultural Commission.

The secretary of the State Viticultural Commission is kept busy sending out the Report of the Sixth Annual Viticultural Convention. Applications for the Report are being received from all portions of the State. Parties not having received a copy can do so by calling at the office of the Commission, 201 Montgomery Street, or by sending 5 cents in postage stamps to the Secretary of the Commission.

Mrs. S. M. Nordman lately lectured in this city on "Viticulture" and is reported to have said that it was a common thing to see children seven years old drunk in the Sonoma Valley. Mr. R. A. Poppe of Sonoma, in writing to the Secretary of the Commission denies the truth of her statement and says that is absolutely false.

Subscribe for the MERCHANT.

#### UNFERMENTED WINES.

A writer in the Pacific Raral Press gives this method of making a wholesome and delicious unfermented wins with very little trouble, as follows:

"In the first place, I atem the grapes an l press out the joice in a tank, letting it stand over night to settle. In the moruing I rack it off and then filter, thus rendering it free from vegetable matter. I also take a quantity of black grapes and put them in a boiler, letting them come to a boil, in prder to produce a dark juice. This joice I also filter. Now, by blending these jnices, any shade of wins I desire is produced, from a light pink to a deep claret color. I then put the wine (so unch of one color as is desired? in a boiler, which should be of copper, with a faucet at the bottom, for convenience in bottling, and let it come to a bris's boil, skimming what rises to the surface. It is now ready to draw off into bottles, which should be standing in hot water to prevent breaking, on the introduction of the hot juice. When the bottles are filled, they should be corked immediately, and then the corked immediately, and the corked ends dipped into melted resin, which seals them airtight. I think that wine made in this way. and brought into notice, would soon become the most popular beverage used, taking the place at dinner that coffee does at the break'ast table."

#### Fruit Stains.

These can be removed from white goods by pouring through them boiling water, provided that the spots have not first been wet in cold water. If the stains are of long standing, and do not yield to this treatment, dip them in water to which has been added chloride of lime in the proportion of one table spoonful of the chloride to one one quart of water. If the stains are very deep, let the article remain in the water 15 or 20 minutes and then hang in the without ringing.

Stains on colored goods are more serious, and boiling water is the bet thing to use, as it will not injure the most delicate color or fabric. As other applications take out the color of the fabric, it is best to attend to all such stains while they are fresh.

### Sugar Quotations.

California Sugar Refinery price list dated August 20th. Circle A. Pat Cube, 7½c; Circle A Crushed, 7½c; Fine Crushed, 7½c; Extra Powdered, 7½c; Dry Granulsted, 7½c; Coufectioners' Circle A, 7c; Extra C, 6½c; Golden C, 5½c; Star Drips Syrup, in bbls, 30c; hf do, 12½c; 5-gall kegs, 39½c; 1 gall tins, 47½c per gallon.

Price list of the American Sugar Refinery dated August 20th: Extra Fine Cube, in bbls, 73 °C; Circle A, Crushed, 7½°C; Fine Crushed, 7½°C; Poweered, 7½°C; Extra Fine Powdered, 7½°C; Dry Granulated, 7½°C; XX Dry Granulated, 7½°C; Confectioners' Circle A, 7°C; Extra C, 6°C; Golden C, 53°C; American Golden Syrup, in bbls, 30°C per callon.

In Fresno and Los Angeles Counties a great many vineyardists are drying their wines, preferring to do so to selling their grapes to the wineries at \$10 per ton. Dried Feber Szagos grapes in Fresno are selling at 3½ cents per pound, and other varieties of dried wine grapes at 2½ to 3

#### TEMPERANCE DRINKS.

The following report of the Analyst for the Massachusetts Board of Ifealth, throvs some light on the intensely mild sugredients of the tonics so largely patronized by the prohibitionist who would hang, draw and quarter, had he the power, the makers and growers of pure wines. It is interesting to note the alcoholic strength of the compounded drugs, which are so heavily absorbed by these fanatics, and consider the cogents ressons furnished for the dyspectic and long suffering appearance of the itiuerant apostles of cant.

#### TONICS.

Dr. Buckland's Scotch Oats Essence. New York City. "Enough alcohol is added to dissolve resins, and prevent fermenta tion." "Not a temporary and fleeting stimulant, but a permanent tonic. Its use must be regular and continued over a considerable period. An extract of double and triple strength also made. Dose, 10 to 15 drops, to a teaspoonful three or four times daily, increased as needed." In the simple essence 35 per cent, of alcohol was found on assay. Further examination of this article reveals a still more dangerous ingredient in its composition. The sample annlyzed, was found to contain one-fourth grain of morphia to the onnce of the socalled "Essence of Oats." A more insidions and dangerous fraud can scarcely be imagined, especially when administered, as this is recommended, for the cure of inebriety or the opium habit.

The "Best" Tonic, Milwaukee, Wisconsin. "A concentrated liquid extract of malt and hops. Neither alcohol nor spirits used in its preparation. Dose, from a wineglassful to a pint bottle full per day." Percentage of alcohol found, 7.65.

Carter's Physical Extract, Georgetown Mass. Dose, 1 tablespoonful three times daily. 22 per cent, of alcohol found on aesav.

Hooker's Wigwam Tonic, Haverhill' Mass. One tablespoonful three times daily, 20.7 per cent. of alcohol found on assay.

Hoofland's German Tonic, Philadelphia. Admits Santa Cruz rum. Wineglass, four times daily. 29.3 per cent.

Hop Tonic, Grand Rapids, Mich. One tablespoonful to wineglass three times a day. 7 per cent.

a rum drink." Tablespoonful to wineglass, four times daily. 13. 2 per cent.

Jackson's Golden Seal Tonic, Boston. Admits Marsals wine. Half wineglass three per cent. times daily. 19.6 per cent.

Liebig Co's Cocoa Beef Tonic, New York. "With sherry." Two to four teaspoonfuls three times daily. 13.2 per cent.

Mensman's Peptonized Beef Tonic, New York. "Contains spirit." One table spoonful to three, three times daily. 16.5 per cent.

Parker's Tonic, New York. "A purely vegetable extract." Stimulus to the body without intoxicatiog." "Inchriates struggling to reform will find its tonic and sustaining influence on the nervous system a great help to their efforts." Dose as tonic. one to two teaspoonfuls, one to three times daily. 41.6 per cent.

Schenck's Sea-Weed Tonic, Philadelphia. "Distilled from sea-weed after the same menner as Jamaica spirits is from sugarcane. It is therefore entirely harmless and free from the injurious properties of corn and rye whiskey." Dose, half wineglass three times daily. 10,5 per cent.

Atwood's Quinine Tonic Bitters, Boston-Dose, half tablespoonful to half wineglass, mixed with water, wine or spirit three times daily. 20.2 per cent.

L. F. Atwood's Januaice Bitters, Portland, Me. Half tablespoon to half wineglass one to six times daily. 23,3 per cent

Moses Atwood's Jaundice Bitters, New York. Half tablespoon to wineglass one to six times daily. 17.1 per cent.

H. Baxter's Mandrake Bitter, Burlington, Vt. One to two tablespoonfuls, 16,5 per

Boker's Stomach Bitters, New York, Dose not given. 42.5 per cent.

Brown's Iron Bitters, Baltimore, Md. "Perfectly harmless." "Not a substitute for whiskey." Tablespoonful, 19,7 per cent.

Burdock Blood Bitters, Buffalo, N. Y. Teaspoonful to tablespoonful three times daily. 25.2 per cent.

Carter's Scotch Bitters, Georgetown, Mass. Tablespoon to wineglassful, as occasion requires. 17.6 per cent.

Colton's Bitters, Westfield, Mass. Teaspoon to two tablespoonfuls three times daily. 26.1 per cent.

Copp's White Mountain Bitters, Manchester, N. H. "Not an alcoholic bever-Wineglassful. 6 per cent.

Drake's Plantation Bitters, New York. "Contains St. Croix rum." Wineglassful three times daily. 33.2 per cent.

Flint's Quaker's Bitters, Boston, Tesspoonful six times daily. 21.4 per cent.

Goodhus's Bitters, Salem, Mass. Half wineglassful. 16.1 per cent.

Hartshorn's Bitters, Beston, Tablespoon to half wineglassful. 22.2 per cent. Hoofland's German Bitters, Philadelphia. "Entirely vegetable and free from alcoholic stimulant." Tuhlespoonful four times daily. 25.6 per cent.

Hop Bitters, Rochester, N. W. One to three tablespoonfuls three times daily. 12 per cent.

Hostetter's Stomach Bitters, Pittsburg, Pa. Wineglassful three times daily, 44,3

Kanfmann's Sulphur Bitters, Boston, 'Contains no sleohol." Tea to tablespoonful. It contains no sulphur, but has 20,5 per cent, of alcohol.

Kingsley's Iron Tonic, Northampton. Howe's Arabian Tonic, New York. "Not Mass. One to two teaspoonfuls three times daily. 14.9 per cent.

Langley's Bitters, Boston. Half wineglassful or more three times daily. 18.1

Liverbool's Mexican Tonio Bitters, Bos ton. Half to full wineglassful three times

daily. 22.4 per cent. Oxygenated Bitters, New York. Tea to tablespoonful. Acid but no alcohol.

Pierce's Indian Restoration Bitters, Boston. Up to wineglassful and to six times daily. 6.1 per cent.

Z. Porter's Stomach Bitters, New York. Tablespoonful or more several times daily. 27.9 per cent.

Rush's Bitters, New York. Wineglassful four times daily. 35 per cent.

Dr. Richardson's Concentrated Sherry Wine Bitters, Wakefield, Mass. Tablespoonful to half wineglass or more three times daily, "or when there is a sensation of weakness or uneasiness at the stomach." 47.5 per cent.

Secor's Cinchona Bitters, Providence, R. 1. Half wineglassful three times daily. 13.1 per cent.

H. Table to wineglassful, 21,5 per cent. Joh Sweet's Strengthening Bitters, New Bedford. Tablespoonful to wineglassful tion it passes from the leaves to the fruit. three times daily. 29 per cent.

Thurston's Old Continental Bitters, Lynn, Mass. Tes to two tablespoonfuls. Il.4 per cent.

Walker's Vinegar Bitters, New York. "Free from all alcoholic stimulants. Contains no spirit." Half to full wineglass. €.1 per cent.

Warner's Safe Tonic Bitters, Rochester N. Y. Table to wineglassful. 35.7 per

Warren's Bilious Bitters, Boston, Teaspoon to two tablespoonfuls one to three times daily. 21.5 per ceut.

Wheeler's Tonic Sherry Wine Bitters, Bostou. Two-thirds wineglass two times daily. 18.8 per cent.

Wheat Bitters, New York. wineglass three times daily. 13.6 per cent.

Faith Whitcomb's Nerve Bitters, Boston. Tablespoonful three times daily. 20.3 per

Dr. William's Vegetable Jaundice Bitters, Lowell, Mass. Half to full wineglassful one time dally. 18.5 cent.

### FOREIGN WINE NOTES.

A French correspondent writing in the Rural Press gives some interesting notes in European vine, and other matters pertaining to the grape industry. He says:

Near Brussels, in Belgium, in a village called Holland, there is a vast establishment for the cultivation of the vines in hot-houses From alar, the hill on which it stands looks like a mountain of glass. There are about 600 hot-houses devoted to that industry, each one measuring 20 feet in width and from 80 to 100 in length. They are all built alike and are a wender of practical sense and ingenious economy.

The sight is a beautiful one from a distance, but far more beautiful and interest ing when inside. Here you see vines in all stages of growth and development. Here are come just budding out; there some in bloom; farther on, great bunches hanging down, nearly ripe. In another hot-house the crop has been gathered and sold, and the vine is now worked upon to make it produce another crop. In this vast establishment you can find ripe grapes all the year round, winter and summer. All these hot-houses are heated by a system of earth enware pipes, which are very cheap. Thousunds of loads of coal are used every year to produce heat, but also hundreds of boxes of fine grapes leave here every week, worth more or less money, according to the season of the year. In winter and spring, from \$1 to \$2 a pound are often paid for grapes and they are in constant demand all over Europe at that price. It is certainly a prosperous and money-making business, for it is increasing every year.

TO DETECT ARTIFICIAL COLORINO IN WINES.

Take wine, seven ounces; peroxide of manganese, one ounce. Finely pulverize the manganese and mix it with the wine. Shake well together, and when the mixture is complete, after about 15 to 20 minutes, filter with great care. If the wine is perfectly pure of any artificial coloring, it will come out of the filter perfectly colorless; if, to the contrary, it shows any color, it is artificial.

### SUGAR IN ORAPES.

Vegetable physiology has established as a Shonyo's German Bitters, Concord, N. positive fact that the sugar, which exists in

abundance in the ripe grapes, is formed in the leaves of the viue, and that by assimila-

The consequence of this fact is that the quantity of sugar found in the ripe grapes will depend on the quality of the foliage of the vines. Experiments have been made for years on that subject and all tend to prove the truth of the above statement. Vines treated by sulphate of copper, and thus guaranteed against the ravages of the mildew, keep their foliage green longer than the diseased vines and fornish always wines a great deal richer in alcohol.

This fact has been proven by experiments: made, doring several consecutive years, at the viticultural gardens of Vand in Switzerland. It tends to prove that the must of the vines treated with salphate of copper was always richer in sugar than those which had not been sulphored, and that the wines of the former were richer in alcohol. Some object to the poisonous properties of the sulphate of copper, but the minutest analysis of the wines failed to show the least sppreciable traces of copper.

#### CLEANING WINE CASES.

When a cask has been left to dry, or has a bad musty smell, it has to be well cleaned before using. First take off all the bungs and let the air come in for a day or two. Next take half a quart of common sulphuric acld mixed with two quarts of water and pour it in. Roll your barrel over several times and let it rest a day. Roll over again and add 12 ounces of lime and four onnces of potash. Roll over several times, then let the mixture run off.

Wash your cask several times with cold water first, next with boiling water and last with cold water again, to make sure there is no trace left inside of the sulphuric neid.

If your cask is only very dry and has no bad smell, the above is not necessary. After sosking it well with cold water, and washing it with warm water, take a few chips of oak wood, soak them in good wine brandy or alcohol, and roll them over and over in the cask with a little warm water and your barrel will be all right,

### TEETOTAL LITERATURE.

A society of Scottish scholars are now engaged in the preparation of an edition of the poets, in which all illusions to alcohel are to be carefully suppressed. In their new editions, Burns, it is said, will lese nearly all his holiest lyrics, and scores of other Scotch poets, to whom the prnise of whiskey has been what that of wine was to Anacreon, will find there best paragraphs depleted. "A teetotal edition of the poets of all ages," says the London Telegraph, "would be a corious sight. Anacreon woold almost disappear. Some of the most striking scenes of Homer and Virgil, from banquets of the gods to heroes' fensts, must be cut out. Horace would not be allowed to praise the Falernian, which must have been better than its modern namesake, to justify his enthusiasm. English litersture is also full of lyrical outbursts in eulogy of drinking. One of Shakespeare's plays hinges on Cassio quarrelling in his cups, and the morder of Duncan is made easy by the drunkenness of the grooms. The expurgation must even go higher than Homer or Shakespeare; it must touch the sacred book itself, refuse to record the miracle at the marriage of Cuns, and hlet out the psalmist's allusion to wine that maketh glad the heart of man."

#### OLIVES A WHOLESOME TOOD.

Retail grocers who have been long in the usiness, says the Chicago Grocer, and rive operated under favorable circumtances, have stated to the writer that they lava neticed an increasing demand for the ther varieties of goods - for more laxuries n fact. To handle these finer goods, and se assured a sale for them, is the goal a stail grocer should strive to attain. A grent many of such goods, while they seem it first blush to come under the head of ! uxuries, need not be so regarded, and if heir values were properly understood sould find more general use. The olive is in excellent example of this, and we caunot better develop this idea than by quoting 12 article from August "Table Talk:" "The slive has important qualities to recommend ta use for the table-qualities which should certainly secure for it there a more general friendlineas than it now has. One block -and we presume the only one-in the way, is that to which we have already referred, namely, that its taste is, at first, disagreeable to many people; but the pidate soon gets over the squeamishuess and in a little time and with very little practice learns to take them with intense relish,

But, laying aside their palatableness. there is another consid ration which has or ought to bave too strong a claim upon our gastronomic affections to be ignored. I allade to their wholesomeness in spurring the digestive machinery when it is inclined anywise sluggish. Therefore, let me say to the dyspeptic that if his taste does not now flourish or the clive, he should lose no time in cultivating it until it does; for he will find hidden there not only an amount of deliciousness he little dreams of, but also more repairing and Inbricating material for his weakened other man, than in all the pills and medicinal draughts that were ever invented for the stomach to concoct.

I would also state for his edification, that, in the south of Europe, where the olive is extensively used as an article of food, indigestion is scarcely ever heard of in fact so little known that the world itself has no comprehensible meaning. He must take this, however, as heresay evidence, for I speak it not of my own knowledge, Still, from personal experience of the wholesomeneas of the olive, I am prepared and willing BY PROF. GEORGE HUSMANN to believe it myself, and it can work no senous injury for the dyspeptic to do like-

wise."

The writer might properly have laid atreas on the value of clive oil as aid to atreas on the value of clive oil as aid to digestion. It should be more generally used. In the cities and larger towns of our country moderate quantities are sold but in smaller places its use is a rarity.

THE Scottish People, of Glasgow, says: The red bandana, which is now the banner of the Free Traders in the United States, was, strangely enough, the banner of British Free Traders over sixty years ago."

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also with all metallic valves.

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#### SPRING PRINING MUSCATS

The last few warm days have decided about the desirability of spring praning the Muscats. The opinious as to the profits of such pruning have been much divided. Charles A. Wetmore, a few years ago, when informed of the practice of cutting back the too exuberantly growing young branches of the Muscat, shook his head and enquired where such a practice had a precedent. But his and many other grape-growers' experience was acquired in climates very different than our own. The advantages as claimed by those practicing summer pruning are many. In the spring, when the young shoots on the vines have reached three or four feet, these shoots are exceedingly tender and easily broken. A heavy wind at that period is not an uncommon thing, and its havoc in an unprotected vineyard is damaging. After such a heavy wind thousands of shoots may be found broken from the main vine just at the junction between the old and the new wood. A few days more perhaps the green branches would have been sufficiently toughened to withstand the wind, but at the critical time much damage is done. To counteract the force of the wind if it does come, and ee a safeguard, many vineyardiste cut back the young shoots one-half or more. The proper time is considered just when the berries have set and the blossoming of the first crop is over. At that time a certain stagnation of the flow of the sap takes place, and the cutting back would then not have any sudden or unusual effect on the vine. The immediate effect of the cutting back is simply to lessen the force of the wind on the branch. After the cutting there is never any danger of the branch being broken by the wind. But a more far-reaching effect of cutti g back is arrived at. Soon after the cutting back the sap begins again to flow upwards and shoots make their appearance at every joint. Thus instead of the single branch out back, four or five branches will grow out and shade the vine This shading of the viue is of greatest importance. The Muscut is the highest bred and most tender of any grape, and exposed to the direct rays of the suu, the berries will burn and dry up, causing not only a loss of the crop, but an extra expense in picking out the dry and spoiled berries. Too many of them will seriously injure the value of the raisins or even make them unsalable.

Vineyards which have been summerpruned well in the spring have in this time of the year large crowns to shade the ber. ries. We have lately been through several of them and a very few berries were seen damaged by the sun or heat. On the other hand, vineyards in which no summer pruuing had been practiced had to be protected in different ways. The favorite way is to take some of the larger branches and carry them crossways over the crown of the vine, thus increasing the shade over the ceuter, where most of the grapes are found. But this method is more expensive and we be lieve not so effective. If we would ask to recommend either way, we would advise the summer pruning every time, as far as this locality is concerned. In other parts parts of California. where the Muscat does not grow so vigorously, summer pruning may not be of advantage; here it decidedly is.

Inferior wines ought to be distilled and not sold to Sau Francisco dealers. A sale of 100,000 gallons of inferior wine iojures tha value of double that quantity of good

#### GRAPE DRYING.

The Livermore growers are proceeding with their undertaking of finding profitable uses for grapes. According to the Livermore Herald report of a recent meeting of vine-growers, Chief Executive Officer Wheeler, who was present, presented an extensive group of facts regarding the drying of wine grapes in this State for Eastero use. He stated that he had correspouded with a great number of Eastern commission men, who had all promised to look into the matter, and msny of whom report on active demand for this cheap class of raisin. He had learned that several houdred tons were shipped East last season, justead of two carloads, as at first reported, with good results. Any commission merchant can handle grapes; very few can handle wine. There has been a great deal of experimentation upon the subject of covering material. The best has finally been found to be common Manilla paper dipped in boiled oil. It costs two cents a square yard; it comes in large rolls. The grapes should be dried on the ground. gravel being the best, a few trays being provided for the small bunches. Side-hills, with a southern exposure, are better than level ground. Covering at night is a good plan, as it retains the warmth, excludes dew and saves an hour or more of time each morning, After drying, which will require about two weeks, the grapes must be stemmed. James H. Porteous of Fresno, has a simple apparatus for this work, which with the fan for cleaning, cests but \$50. It will stem and clean ten tons a day. Oue will do all the work of Livermore Vslley. This may be done at any time,-there is no hurry about it. In making trays no redwood should be used. It steins the grapes. It requires 480 square feet of space to dry a tou of grapes-a plat of ground 20x24 feet in size. A drying a days the grapes can be put into much less space. After grapes are wilted they will stand considerable moisture without injury. Grapes will dry many days sooner on the ground than on trays. Common cheese cloth may be substituted for wood for drying the small bunches. It will not rot and cost but three cents a square vard. Old grain sacks are good, but will rot out under the influence of sun and moisture. R. B. Blowers, the father of the raisin industry in this State, heartily approves this grape-drying project, and atates that our wine men had better sell dried grapes at 21% cents a pound than fresh grapes at \$12 per ton. It might also be added that the common wine grape of this valley, when ready for drying, shows 28 per cent of augar, 10 of seeds, skin and pulpy matter, 1 of tannin and acid-giving a total of 39 per cent of solid contents. To this may be added 5 per cent of moisture. Then throw of 11 per cent for a general shrinkage and we have a proportion of 1 to 3 for the dried as against the fresh product.

### AMERICAN WINES THE HEALTHIEST.

Wine is a luxury, to be sure, remarks the Brooklyo Eagle, but the common acid table wines are much used, even among people in moderate circumstances in this country. In Europe a family would as soon think of sitting down to a dinner without bread as without wine, and the use of it acems rather a safe-guard against intemperance than an incitement to it.

If the use of this mild stimulant and

digestive is to continue in this country, however, it would be an act of wisdom to moderate the import tax in order to discourage the adulteration of the foreign article and encourage the sale of domestic wine-which is the purest known-at cheaper rates. Much, if not most, of the claret that comes to this country, and nearly all the Port, Sherry and Madeira is sophisticated, and not a little of it is American wine sent abroad, colored with logwood and other dyes, increased by additious of water, fortified with raw spirit and seut back to us with French labels. The police of Montpellier. France, deserve the thanks of all wine drinkers for their scizure and destruction of 25,000 liters of wine seut out by a large exporting house and waiting shipment at the railroad station. This stuff was found to be so outrageously adulterated that the police staved into the casks and the fluid poured into the sca. The amount of indigestion, stomach ache and the number of red uoses spared to New York club men, who would shortly have paid big prices for it and St. Julien and Poutet Canet, can hardly be determined, but the wine "doctors" have perhaps received a set back. It would be a good thing if adulterated edibles and potables in all countries were destroyed as expeditionally. Excepting champagne and sherry American wines are the healthiest, the purest and the best, and if they came a little more within range of the popular purse, their use would limit that of the inferior products of European vineyards and laboratories.

#### WINE MATURITY.

It seems a misuse of the word, remarks the Analyst, when we apply the term ripeuing to such products as wine and liquors, yet as a matter of chemical and gastronomic science, the application is not only appropriate but even happily suggestive. The auslogy between the process undergone by a peach in passing from the green to the mature stage, to that undergone by a wine or liquor is, if possible, more than an analogy, and closely approaches identity. The fruit changes in texture, becoming softer and less fibrous, the starch is modified into glucose, minute quantities of hydro-carbons are broken into the compound ethers and alcohols, which make up the flavor and bouquet, and many injurious substances are broken down and destroyed. So in the ageing of a Madeira wine, a whiskey or brandy, there is a change in the texture, or, to use a more accurate term, the specific gravity. microscopic amount of germ is metamorphosed into glucose, small quantities of the fusil oils are broken into more composite compound ethers and alcohols, and other elements are lost or destroyed. It is no exercise of the scientific imagination, but a demonstrable truth, that a pear which passes into delicious and perfect maturity upon the bough, passes through the same development as a cask of cogoac in a well appointed ware-house. The analogy or identity runs even further. Unripe fruit is notoriously difficult of digestion, producing serious disorders. Its taste and odor are frequently repulsive, if not at least disagreeable. It is used only by the ignorant, and notably by the small boy, so often ridiculed by the humorist and paragrapher. Unripe wines and liquors often exert a corresponding influence upon the assimilative system. A new or "green" Bordeaux or Burgundy frequently causes vomiting; fresh leabella, \$1 to \$1 25.

cider and grape juice, diarrohœa; raw whiskey, gastritis and enteritis. Such goods are never used by the connoisseur, but only by the ignorant. It requires but little koowledge and experience to discriminate, between ripe and unripe fruit. It requires much to distinguish between ripe and unripe wives and liquors.

### SORGHUM SUGAR.

A South Carolina exchange in discussing the action of the National House of Representative in recently passing an approprintion of \$100,000 for conducting experiments in the production of sugar from sorghum, says: The Senate will probably agree to the appropriation, and the experiments will be continued by the National Agricultural Department. There was coueiderable opposition to the messure in the House, and the opinion was was freely expressed by members that it was impossible to chrystalize the saccharine matter of sorghum juice. The members of the House have as much right to an opinion on the subject as any one else, primarily, for it is just as possible for a congressman to have some ideas of chemistry and chemical possibilities as other people, but it is not ressonable to suppose that the Department of Agriculture would ask for the appropriation and continue its efforts in this line, unless there was at least some hope of success. If we were not misinformed the production of a good article of chrystalized eagar has been accomplished by sorghum growers of the Northwest, though success or failure have not been clearly ascertained. When we reflect upon the great importance of the subject, and upon the immense value the discovery of a method of chrystalizing the saccherose of sorghum would be to the country, no one can doubt the wisdom of Congress in providing for continued experiment and research. The \$100,000 thus to be expended may develop an industry that will be worth many millions a year to the country. If the farmers of this State could convert sorghum juice into good "sweetening" sugar they would find it very profitable in the production of the home supply, if not in making it for market. Let the experiments go on.

### PICKING AND PACKING GRAPES.

In a recent issue of Vick's Magazine, a grape grower describes the careful manuer in which grapes are picked and packed at an establishment in Chautauqua county, N. Y. The work is done by careful girls. The pickers are not allowed to touch the bunches with the hands, but to handle them by the stem. la packing, the cluster is lifted by the thumb and finger of one hand, and with the sharp pointed grape scissors in the other, all green, imperfect and bruised berries are deftly and rapidly removed. The bloom of the grapes is thus perfectly preserved. Of the 10,000 baskets sold last season, the average weight was 8 7-10 lbs. per basket. The packers soon learn to place in the clusters even and level. The Concord is never fit for shipping long distances without being carefully picked and then wilted before packing.

The latest Sau Francisco prices for grapes are as follows: Rose de Peru, 40 to 50c; Muscat 35 to 50c. per box; Malvoisie, 15 to 45c; wine grapes, per ton, \$14 to \$17;

#### A LIVING VASE.

This process of ornamenting vases is by no means new; but as the thing is far from from being commoo, and as it may give some one a new idea by which to help beautify the home, we have deemed it worth while to give a representation of it so as to show the result, and to indicate the means employed to obtain it, which are most simple. Though any kind of vases can be used indiscriminately, those in unglazed terracotta are preferable, being porous. In such ressels the water with which the vase is filled percolate constantly through the sides and moisten the plants which are fixed on its surface. This kind of vase is, however, not indispensable, for we can ornament all kinds, whether in glass or metal. In the latter case it is uccessary to prepare the surface so as to convert it into a sort of soil, which it really representsan operation which is easily managed by the aid of a piece of cloth or flannel which is fixed by the means of a little pack-thread or thin iron or brass wire. This being nnderstood, the means employed to grow the

seed might next be described. If a porous vase be used it is filled with water or, better still, left in a pail of water to soak. After a lapse of twenty-four hours, when the water has thoroughly saturated the vase, it is laid on its side, and the seed sprinkled slightly over the surface, taking care to turn the vase in different directions, in ord r that the whole surface may be well covered with seed. This operation terminated, the vase is placed in a dark closet for some time time, and, if possible under a glass frame, so as to preserve humidity and facilitate germination. When the plants are developed, and in case they get detached from the vase, they are secured by passing round, in different directions, a little packthread or fine wire, which soon disappears under the vegetation. If a nonperous vase, after having well soaked the cloth which covers tt, the seed is sown upon it and the same care is given as has already been indicated. When a porous vase is used it should be kept constantly full, as it is the water filtering slowly through it that feeds the plants which cover the sides. If that be insufficient to insure vigorous growth, the vase must be watered, taking care to pour the water cautiously, so as not to detach the plants. If glazed or metal vases be used, glass bottles, for instance they must be constantly watered; the water should be poured from the top over all, so that, in descending, it wets all parts of the cloth, which should be damp. Whenever the plants droop they must be refreshed by watering them curefully. The vase should stand in a sancer or plate. The seeds used should be very fine, ann especially light and of easy and quick germination. common carden cress is most suitable from its great rapidity of growth, the easy and very quick germination of its seeds, and also on account of the little nourishment the plant requires; but it has several drawbacks: first, it has a tendency to sink more or less, then to have gaps, to show flowers very quickly and then to wither away. The common ryegrass is also suitable, but experiments with other seeds may be made, We ought to multiply and vary the experiments until satisfactory results are obtained. The following kinds of plants might prove suitable; Crested dog's tail grass white, and yellow clover (Medango lupulinga), lax but particularly the Timothy grass | Ph'eum Pratense), which appears to be singularly appropriate for this mode of ornamentation

Let nur readers experiment and write us the result of their labors.

#### WINE TO ORDER.

In Pooles tales, says a writer in the London Toble, the reader gets an insight into how wines were made at some hotels.

The author, meeting a stranger in a conntry churchyard, recegnize Burley, the former landlord of an inn he used to frequent near Cambridge, it appears, retired to enjoy the fruits of his industry. Falling into a confidential discourse about the way in which this worthy conducted his busi ness, the author receives from him a most luminoos and satisfactory account of his

"You can't deny it your wines were detestable - Port, Madeira, Claret, Cham-DACDO

"There, now, sir; to prove how much gentlemen may be mistaken. I assure you, sir, as I'm an houest man, I never had but two sorts of wine in my cellar - Port and Sherry."

"Yes, sir, my claret, sir. Gentlemen who pay their money, sir, have a right to be served with whatever they may please to order, sir. I never would have any wines in my house, sir, but port and sherry. to explain the thing at once, sir. This was my plau sir. If any one ordered Madeira: From one glass of Sherry take two glasses of wine, which replace by two glasses of brandy, and add thereto a slight squeeze of lemon, and this I found to give general atisfaction. As to the pale and browns sherry, sir, a couple of glasses of nice, pure water, in place of the same quantity of wine, made what I used to call my delicate pale (by-the-by, a squeeze of lemon added to that made a very fair Bucellas), and for my old brown sherry, a leetle brown sugar was the thing. It looked very much like sherry that had been twice to the East Indies, sir, and, indeed, to my eustomers, who were very particular about their wines, I used to serve it as such."

"But my Port was the wine which gave me the most trouble. One gentleman would say, 'Burley, I don't like this wine it is too heavy? 'Is it, sir? I think I can give you a lighter.' Out went a glass of wine, and in went a glass of water. sir.' I'd sav, 'how do you approve of that? 'Why-nm-no; I can't say--' 'I understand, sir: you like an older wine---softer. I think I can please you, sir.' Pump again sir. 'Now, sir, says I (wiping the decanter with a napkin and triumphantly holding it up to the light,) ' try this, if you please, That's it, Burley-that's the very wine, bring another bottle of the same." one can't please everybody the same way, sir. Some gentlemen would complain of my Port as being poor-without body. In went one glass of brandy. If that didn't answer. 'Ay, geutlemen,' says I, 'I know what you like; you like a fuller-bodied, rougher wine.' Out went two glasses of wine, and in went two or three glasses of brandy. This used to be a very favorite wine.

"And your Claret?"

"My good wholesome Port again, sir. Three wines out, three waters in, one pinch of tartaric acid, two ditto orris powder. For a fuller Claret, a little brandy; for a lighter Claret, more water."

"But how do you contrive about Burgundy?"

"That was my Claret, sir, with from three to six drops of bergamot, according as gentlemen liked a full flavor or a delicate flavor. As for Champague, sir, that I make myself."

"How do you mean 'of course,' Burley?"

waggish look, "surely everybody makes his own Champagne, else what can become of all the gooseb- rries?"

### THE LUXURY OF A ROSE JAR

Adelightfulp rlume for halls and parlorin dwelling houses or hotels can be easily procured at this season of the year, and it is such a pure yet delicious odor that it charms every one. It is simply a rose jur, which should be opened for about one hour every morning and then carefully closed. A writer in one of our Euglish contemporaries describes the best method for stocking to jar, and in doing it suggests the prepartion of the ruse stock should be detailed to the care-taking member of the family, who never forgets anything. Gather the rise petals in the morning; let them stand in a cool place, toss them up lightly for one hour to dry; then put them in lay rs, with salt sprinkled ov reach layer, in a large covered dish-a glass butter dish is a convenient receptacle. You can add to this for sev ral mornings, till you have enough stock-from one plut to a quart, according to the size of the jar; stir every morning, and let the whole stand for ten days. Then transfer it to a glass fruit jar, in the bottom of which you have placed two onnces of allspice. coarsely ground, and as much stick cinnamon, broken coarsely. This may now stand for six weeks, closely covered, when it is ready for the permanent jar, which may be as pretty as your ingenuity can devise or your means purchase. Those with double covers are the best, and very pretty ones in the blue and white Japanese ware, holding over a quart, can be bought for a few shillings.

Have ready one onnce each of cloves, allspice, einnamon and mace, all ground (not fine); one ounce of orris root, bruis d and shredded; two ounces of lavender howers. and a small quantity of any other sweet scented dried flowers or herbs. Mix to gether, and put into the jar in alternate lay. ers with the rose stock, and a few drops of oil of rose, g ranium, or violet, and pour over the whole one-quarter jint of good cologue. This will last for years, though from time to time you may add a little lavender or orange flower water, or any nice perfume, and some s. asons a few fresh rose petals. You will derive a satisfaction from the labor only to be estimated by the happy owners of similar jurs.

#### WHISKEY AS WINE

The Courier-Item in an article which is claims is not prohibition nor temperane talk, but simple reference to practical poli-

Men's votes next November are to decide the policy of this government. This is not merely a campaign to change p stmasters and revenue officers, it is to d t rmine the policy of the gov rument towards many large and important industries.

The Republican party has pledg d its.li if it again acquires control of the government to abolish the internal r venue tax on whiskey. The eff et of this would be to r duce the price of whiskey at least one-

Remember there is nothing moral about this article, and we are not going to picturany of the evils of cheap whiskey, but ask proposition from a business standpoint, at the luxuriant growth of our vines, and California is a great wine producing State, crops of fruit.—Ez.

"Oh, sir," he said, with an innocent yet It has more area adapted to the cultivation of the grape than any other country ander the sun. C if writins on business principles are interest I in extending the use and increasing the favor of rative wines. from grape juice is the cheapest and healthiest stimulant in existence. As a drink it is n w in competiti n with whiskey, and the high price of the latter is constantly giving the colds to the wine. Give us ton years more of cheap wine and dear whiskey and the wine market will be seenre, but put the distiller on equal terms with the vintner and the baser product will crowd the better out of the market.

A campaign serial of three score chapters might be written nion this one feature of the present campaign. If they give heed to their ways, and consider their course, not a grape grower or wine merchant in California will vote the Republican ticket this year.

Cheap whisk y is fraught with more harm to the material inter ats of California, (without looking at the moral side) than the Chinese juraster

### CAREFUL OF THE CHAMPAGNE,

A correspondent of the Boston Herald

"I was crossing on the steamer to Liverpool a few years ago and tound myself seated next to a gentleman who has been prominent in Massachusetts politics and is sometimes spoken of as a statesman. On three or four different days I opened a quart of champagne and always invited him to join me in drinking it, an invitation he never declined. Finally one day he ordered a pint, and instead of offering me any, said he thought it a pity that they didn't put it up in smaller bottles, because a pint was more than any man really needed, but that he had to drink it all to save waste since the corks were so made that they couldn't be put back.

### HOW OUR GREAT NATION GROWS.

New Enterprises publishes the following statement showing the progress of the varions industries of the country for the week ending August 4: Buildings (co-ting over \$5,000 each , 3 9, costing \$7.009,707; bridges 15, costing \$500,050; churches 40. costing \$1,453,000; electric light companies and new plants S, capital and cost. \$515, 000; gas companies 2, capital \$20,000; mannfacturing companies 16, capital \$6,438,000; mills, factories, etc., 70, costing \$2,418,170; mining companies 17, capital \$20,772,000 railroads and extensions 1, costing \$100,000, and warer workt 17, costing \$534 000, making a total of 530 new enterprises, calling for the investment of \$40,278,927.

### Soil for Grapes.

Do not be afraid of rich soil for grapevines. They are gross feeders and we have found that a liberal top dressing of wellrotted chip dirt, or naturally strong, rich prairie soil, has grown our finest crop of grapes. Grape vines are especially fond of animal refuse. If bones, heads or other butcher's offal, are buried two, three or four feet from a vine, which has been planted two or more years, and is in good e adition, the roots will soon take possesst n. We have always put this advice in tractice by burying all small animals which die and of which farm re have more or less to ry year, in our vineyard, and our Californians to look at this cheap whiskey neighbors have always expressed surprise



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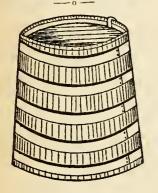
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VOL. XX, NO. 12.

SAN FRANCISCO, SEPTEMBER 14, 1888.

PRICE 15 CENTS

#### WINE.

Its Uses as a Temperance Agent.

Paper read by F. Pohndorff before the Sixth Annual State Viticultural Convention.

Desired to express my views about wine as a temperance agent, I gladly accepted, for some in this assembly know that my feelings are strong on that subject, and the contrary assertion, namely, that the grape grower, through his product, tends to paudering to the vice of tippling strong drinks, has appeared to me ever so absurd; that those who hold such mistaken notions must be either ignorant, or devoid of good sense.

Wine is a true promoter of temperate habits. The simple explanation of this axiom liea in the words, "Wine is food; do not abuse of it as a dram," Could I be convinced of the fallacy of this truth, and of the justice of extreme prohibition ideas; could I see that wine is the poison these represent it to be in one line with distillates, I would at once change my life career, and have nothing more to do with wine. The experience and observations of high thirtyfive years as a wine man, render my persussions about rational consumption so firm. as my pride is great to belong to a profession respected and honored by a hundred millions of civilized, moral, and sober people in the Old World. Let us hope that in the New World these attributes are not to be discunnected with wine production and wine consumption. A pretty positive confirmation of the truth of the views of the civilized world on the subject, wine, becoming by intuition the views of every one who knows wine, pure light wine, is the spontaneous expression of so many speakers during our Convention-men brought up in different parts, and under different influences. More than one among us was a total absteiner until he knew to use wine. The power of truth is inherent. Truth is a a power, called torth without any stirunlus, because it lives nourished and growing in the mud of him who searches, or of him whom circumstances lead to experiencing it in the course of his calling. Error needs excitement by the zeal of sentimentalism and ignorance, leading to fanaticism, and leaning upon negative observation.

It is not even given to every one to know what he does not want, but only by investigation on both sides, the good and the bad,

man finds out what he wants. Could those who doubt the virtue of our product, or, rather, could they learn our sentiments here at these gatherings, learn our habits of life, see viticulture as it is, perhaps some extreme treatchallers might be reconverted to true rational temperance.

For the alimentation of the French nation one thousand three hundred millions of gallons of wine are needed annually. Cider for the same purpose is used in France to the amount of some six hondred million gallous. According to all authorities, and on the basis of observations apread ing over many yeers, the vice of intemperance is comparatively insignificant in France as far as it is traceeble to these light beverages from fruits. The reverse is the case, caused by a large amount of distilled drinks consumed in parts of France where wine is less accessible. Itaw, new spirits, obnoxions compounds classed as liqueurs, that fiendish absinthe, etc., have to answer for the percentage of drunkards ending it the madhouse, jail, or by snicide.

The generalization of the small wine called Priquette, made by exhausting grape pressings and lees by fermenting, is a blessing in southern European countries. It an swers the purpose of buttermilk, cider, milk, beer, aerated water, and the druggist's summer-bar heverages, in countries not privileged to plant vineyards. Piquette is a naturally nourishing, refreshing, and tood-assimilating drink for the poor in tural populations in most grape countries. The moderate strength of Piquette, and the lightest direct grape wines, 5 to 8 per cent, dituted moreover by water addition, renders them fit for thirst quenching, and withal strengthening and tonic to the hard workers in the hot season, and for nutrition of all persons of the household. Where there tight fruit heveniges are used, depend upon it, the danger is small, that people crave for, or even desire, alcohol. The natural taste tends to fruit neids.

Italy, now at the head of the list of the wine-producing countries, has a large amount of wine to spare for other nations.

Ten, twelve times more than the whole of the United States wine crop amounts to, Italy can sell out of the country over the large home consumption. The result is a sober nation. The percentage of drunkards in Italy is very insignificant. Austria, Hungary, the Slav populations of the southeast of Europe, Greece; Germany, wherever

wine enters into alimentation at the family board, there society is comparatively free from the habitual vice of inchriety. Raki, grain distillates and others, which seldom are extensively used, where wine readily and at moderate cost is obtainable, cause more intoxication and its evil consequences, than the one hundred times larger consumption of wine.

In Spain and Portugal, the Spaiish and Portuguese American countries, in every one of which wine is a national table drink, the same is true.

The little Argentine Republic, uses more wine than is imported into the twenty times more populous United States. People who know Uraguay and Paragnay, will testify to the absence of drunkennesss there. As a rule, people habituated to wine at the meal, will shrink from imbibing a distilled strong driuk, be the pony glass ever so tiny. It will make the young ones and females shudder. The fruit acids in a liquid of light alcoholic strength will disqualify the person who uses it from finding attraction in a distillate. Only the example set by yarents allows young persons to consider spirits a national, and to give it strong, a legitimate beverage. Only where from early yunth the nauscating, throat-burning sensation has been overcome, I hold it, any relish can be found in strong drinks.

That nature converted the sugar in the grape by fermentation into alcohol as an inherent and preservative element in the whole of the composition of wine, is a high advantage to nutrition; only thereby is the maturation and improvement of wine possible. The hygienic properties of the amalgam would be less, had the sugar of the grape remained nuconverted. At the dinner table the amount of water which nature has put into wine at the percentage of 85 to 90, may be donbled, trobled, and the 10 to 12 per cent of alcohol our wines usually connin, be lessened thereby to 6 or 1 per cent, (and for the young ones this should be A healthy constitution is benefited by the daily use of winc. It is not the indiscretion as to quantity which is instilled by habituating children to their modicum of it; nay, they look spontaneously for the refreshment, the nourishment, for satiety, in the lightest element to wine, water. For the diluted druk virtually consists of a dose of tartame seid in the most perfect combination in water.

Abuse of wine is possible. There are na- I wine, extractives and acids.

tures inclined to excess in anything. Where the rational use is practiced, and inclination to abuse is observed in an individual, wisdom of the parent comes in. But better than total privation, the example of the masses, who, by intuition, learn to practice moderation, may serve to check and bend inordinate appetites.

Climatic conditions, the calling of the individual, leading to expend more or less vital energy, then example and habit, these factors seem to determine the kind of alimentation.

According to the degree of capability to take advantage of hygicinic experience connected with nutrition, wise or unwise customs are formed. In new communities, such as constitute the United States, all manners of nutrition exist. Abundant elements exist around us to suggest and draw conclusions about the value of different methods for the best adapted ones according to regions, climates, products and different circumstances generally on this vast continent.

Substantial nourishment has to mointain heat in northernmost States, or in places of great elevation, while the warm south needs light, cooling beverages, corresponding to light, solid nutriments. Ten and coffee may warm the blood in cold regions, but for generating and preserving the necessary blood heat, beverages containing a certain proportion of alcohol will he a more adapted liquid nourishment, at lesst for hard workers out of duors.

The temptation to excessive absorption of the product from the still has caused people to check the facilities for procuring fire water in certain States. To have proscribed it altogether, however, seems extremely imprudent, nuleas a aubstitute be presented, for what, in a degree, is a good thing for many a toiler in wintry regions in certain cases. A light wine acts coolingly, and is a godsend in torrid weather-the best febrifuge that the pharmacoperia contains. So the same wine, sugared or sweet wines, which ere fortified, as every one should know, diluted in hot water, may act as a splendid restorative in cold weather, and ere a natural substitute for ardent drinks.

But, along with the use of this substitute, the rule of moderation should be taught. The alcoholic element, while entering into the unit and acting beneficially, should not outweigh the other valuable ingredients of wine critacities and scide.

reply; you offer another tempter. Try the experiment, practice it wisely, is my rejoinder. Wine is a means of weaning people from strong distillates. Human nature will not, in most eases, submit to total pri-

I must be permitted to widen the field of the theme given me to treat. The war waged by ultra-temperance people against our product, we may presume simply incidentaly, along with what is desired to check, alcohol consumption, should call forth voices, for defense. Moderation in all things, and notably in our diet, is an attribute of every well-hred person. To promote temperate habits is a pleasant task, a bounden duty of parents and teachers. To assist in correcting natures given to excess in strong drinks, is an obligation for every patriot. Every one of us doubtless is an adherent to these principles, and where the objects of associations battling against the abuse of alcohol, is centered in these rules, and reform sought properly and intelligently, who is there among us who will not gladly call himself a temperance man Who, in fact, is there among wine men that does not train his children in the practical abhorrence of drunken habits? Dram swilling, strong drinks at any hour, are the source of infinite misery. Reform of the tippling habit may safely be acknowledged to be a untional necessity.

A certain percentage of mankind is of criminal propensities. A certain number from every thousand reside, or should be, in prison. Despite the moral teachings, in spiae of punishment, a proportion of those trained in the fear of the Lord are weak and sinful. Equally so a certain proportion in society fail to dominate their appetites. The habitual drunkard should be redeemed. Let the strong liquor be kept out of his reach if possible. Teach the young the terrors of vicious indulgence. Teaching alone may not avail, just as in other cases of sin. There is a simple and efficacious means of promoting sober habits. Our mission, that of our product here, steps in. We produce and dispense what nature intended, by proper use to bring about and assist, the desired reform, the regeneration of cravings, and habits inconsistent with true temperance. Our product is for the home; it forms part of our diet.

Not to every constitution, the fruit acids in any proportion, may be congenial; neither are water, milk, tea, coffee. Many a digestive apparatus has been ruined by water. The proper use for water, and above all, the nature of waters, for there are ever so many kinds, conditioned by salts or organic additions, is a study. Water at different temperatures, ought to be inquired into. How many advocates of water have to apply to the physician to correct the bavoc undue indulgence in water has wrought? Wine may not be a panacea for all, nor is water; but for nutrition, and restoring speut energy, the most perfect liquid mankind is blessed with is wine.

Ages have passed, accumulating millious of billions of proofs that nations that cultivated the grape and use its fermented juice as a natural part of nutrition are as frugal, industrious, and abstemious, as they are possessed of all the attributes of bodily and mental health and vigor. And, as no degeneracy, no decay, has thus far followed their rational habit for ever so many generations, no falling off in strength seems possible from its continuance.

Let it severely alone, the extremist will liquid blood and hilarious temperament, who knows how to use wine as Nature designed, the heetic dyspeptic abuser of iced water, of sullen disposition; the enervated man in the Orient who gluts himself with atrong coffee; the person of excited and shattered nerves, longing in vain for aleep, who uses tea in excess for the non-assimilation of food, and let the reflecting physician describe whose methods of nutrition should be preferred.

Fruit acids are indispensable. The acids of vegetables are obligatory factors in wholesome diet. Refreshing is the action of the acids of the citrus fruits, and in given doses they assist digestion well. A lemonade may be a substitute where wine cannot be had. But your acids from the grape in the best combination, inimitably prepared by Nature in wine, are more perfect in their effect than uny others. No druggist will ever improve upon that wonderful compound, shaped by fermentation of the juice of high grade grapes.

The united power of millions of smallbrained Neal Dows and St. Johns will never be able to drill ahole in a judgment that will live forever, emitted by a man that bore in life the respected name of Professor Liebig. He said "Wine as a restorative, as a means of refreshment when the powers of life are exhausted, as a means of correction and compensation where misproportion occurs in nutrition, and the organism is deranged in its operation, as a means of protection against transient organic disturbances, wine is surpassed by no product of nature or art," Wine as a dietary beverage was a foregone conclusion with Liebig, who lived where wine has that mission,

Eight years ugo the staunch champion and greatest benefactor to our industry the man of brightest intellect among us, wrote some sentences which are the brilliant expression of his feelings, strengthened by a then recent investigation in wine countries.

C. A. Wetmore wrote then on the philosophy of wine thus:

Wine is a civilizer in the family. It makes the dinner eventful, and prolongs its period of enjoyment. It brings man and wife into full sympathy, and lets the woman into the man's most entertaining moods. He does not save his wit and smiles for the barroom and club. It clinches matrimony after the church ratifies it. It brings a sense of satisfaction, peace, and comfort, and invites to repose and not to excitement. Wine-drinking families are not divorced every evening. Their enjoyments are in close communion with freedom, frankness, and congeniality. Home is better than any club or bar-room and the bachelors seek such homes to visit. Pater familias does not need to seek the buchelor at the club or the saloon. Moreover, his luxuries become cheap and economical in this way, and he becomes hospitable. The bottle of wine makes the table cheerful; the tired and overanxious wife is not troubled about what she has to offer to her guest. Such tables offer no apologies, and need none.

Wein, weib, gesang; these are the results. Wine is not jealous, nor timid. It unites man and wife, and they sing; their hearts sing if not their voices. Without wine, stimulus comes from behind doors and screens. It is secretive, and ashamed of itself. Whiskey, and even beer, to a great extent divorce the family relations, destroy home society, become ill-timed and unreasonable and lead to discord and complaint. A man leaves an ill-digested and poorly enjoyed silent dinner to wander in search of his actions because other houses and places stroyed that wine is a luxury accessible only are not under his control. He ceases to know what he drinks and is imposed upon . He goes home relaxed, perhaps jolly; he forgeta that his wife has not bad the same relaxation, and his jolly temper is turned acid by her habitual tired expressions and cool neas. Women fight the saloona partly from fear, partly from jealonay; neither habitual fear nor habitual jealousy are promoters of peace, good will, and contentment. Women then begin to think of rights of all kinds and women's rights in particular. Wine at the table would make it all right

When we talk of "wine and women," too many think only of champague and hilarity. This is not what we mean by wine-drinking Champagne is an exceptional luxury; but natural wines, such as sound, dry Ziufandel or Riealing, are never boisterous. They lead to no more excesses than tea and coffee, and are rarely as dangerous to the stom ach. The condition of the stomach and liver rules the head. Avoid distilled spirits, re garding them as drugs, useful when intelligently prescribed; avoid alcoholized wines. and heavy beers, and there will be no day ger of intemperance. L-t prohibitory legilation reform itself. Seek ont specific dan gers, and restrain them, as the sale of drug is restricted. Punish adulterations and adulterers, and society will be very safe an happy. The vine has been called "th friend of man;" it should be called the mu tual friend of man and wife. It is an antidivorce prescription.

There has never yet been a good opportunity to observe the effect of habitnal wine drinking upon an Auglo-Saxon community. No country mainly composed of Anglo-Sax ons has yet been a wine producer, to the extent of providing sufficient to supplant spirits as a beverage. We are to test the question in this State, and perhaps in the United States. The study of temperaments however, has much to base opinions upon. The Frenchman and the Irishman, when judged on equal terms, differ mainly in their habits, which control thought and for the good cause, and are inscribed in the sentiment. What might not wine have donfor Ireland? What might not whiskey have done for France? There are wine-drinking Englishmen (not the port and sherry drinkers), Irishmen, Germans and Americans. Observe, then, their family life, their gentleness and gentility, their affections and their unity. American topers go to France and come back cured-come back gentlemen. Wine makes gentlemen as grog mak s brutes. Wine makes a polite tongue; whiskey makes a foul-monthed blackguard. Wine carries with it the associations with which it is served; whiskey does likewise. Man is a machine - unimpressionable, unteachable while at work; his ideas flow and he receives impressions when relaxed. How can a man become a gentleman who gets his relaxation in grog? "Grog" means all that goes with and surrounds it-all that surrounds its consumer. The vine will build up our State, and enrich and comfort our people. Wine will cure dyspepsia, change a biliona temper, repair a broken health, relieve woman's lonesomeness, and mend our manners

Moral: plant vines, and make a home: drink wine, and become a gentleman.

From the plant we cultivate with such assidnous and auxious care, we supply in each year, improved quality what is best for public health, more pleasant to the taste, more adapted to the wants of the nation. With the ambition to produce only what is pure and good, we have succeeded already in is put into the hauds of the public. Gov-Compare with the southern European, of some relaxation. He ceases then to enjoy reaching a phase in which the idea is de-lernment will confer a boon on public health

to the rich. Our wines are good, pure, chenp. The poorest American who can afford to use milk can have wine of national production at a price not above that of the milk.

Our efforts are poorly seconded. The cause of this at the bottom is the lack of knowledge of the proper use of wine; and it is the source of a heresy as gross as has ever perverted truth in any age.

The secret of rational consumption of wine was revealed thousands of years ago to nationa who, in all other regards, were ar below the standard of modern education, Our Savior, brought up under the Mosaio law, could see no harm in the use of wine. As His nation had done before Him Jesus drank wine at His meal. He commanded His disciples to use it and remember Him. The secret of rationally using wine remain a inrevealed to the zealots of prohibition, who engraft Mohammadan proscription of sine on the sound rule baid down by the ounder of our religion. Surely, in this light, f anything, draukennes not xcepted, degrades American civilization; prohibitiou loes does that, as the phylloxera on the gots of the vine saps the root of common use in matters of alimentation.

The false teachings that Am riems have to power of will, the d grading assumption hat every one is a denukard born, the false prophet's triumph over Christ's commandnent-all this is as had as the ignorance thout the nature and off et of wine, which engenders such insulting doctrines. No, it cannot be indifferent to see our moral stanlard lowered by prohibition, which claims that the grape grower panders to the drinking house, and should be swept away, together with the superabandance of the sr-

The original idea of temperate use of bevrages, that may be abused of, is present in the temperance societies in the Old World. In their ranks thousands of wine producers, and distributors, and consumers, are laboring number of zealous workers for temperance. That word wine is no bughear across the Atlantic, nor infringers upon sober habits, To instance the great distinction made between nonrishing wine and intoxicating liquors in Italy, let me mention that when, a short time ago, the Enophile Circle convened an exhibition of wines in Rome, they had, in the opinion of the viticulturalists. exceeded limits, in also admitting distillates for tests. The outery of indignation by the wine people found a ready echo in the press with spontaneous sympathy of the wine-consuming public.

When two years ago the demoralization of public sobriety became apparent in Switzerland, where the home crops of wine do not suffice for the family demand, and prices of wins from France enhanced greatly by a falling off of the product in the latter country, had rendered the same incacceasible to the poor Swiss, and largely caused spirits to augment in consumption, and take the place of wine, the matter was officially inquired into. The result of the deliberations of the legislature was a change of duty on imported wines and distillates. On the latter the duty was raised to a figure, and the duty on wines considerably rebated. This was the wise measure of an intelligent government to reform intemperance.

The repronch of brandy production is made to the grape grower. We do bear responsibilities where poor and fresh brandy

if our good brandies are allowed to mature in bond for years. The great sup riority of a good, pure, of I grape brandy, ov r grain distillates, the more than difficulty to procure pure, old cogune from grapes, gives us a privil ge, that is, to be the producers of what the physician wishes his patient to obtain, whin he prescrib sithe matured, pure article. And where climatic circumstances m w realer a small dose of old brandy d sirable, or where a pony glass of the stuff may be convenient as a chass cafe, if we produce and age that brandy, we cannot be the demicable b ings calumny depicts us too frequently in prohibition twaddle. Economical reasons cause us to take advantage of prop rly using every elem at of the grap . Brauly production is but incidental to wine making. Ho who know how to use brandy wis ly will not look down upon the producer for making it good and pure Our hands are as clean as those of the grower of peaches, apples, cane, potatoes, beet root, or grain, of which distillates are made. Amylic grain distillates, investigators tell us, kill a dog -ours from wine is more levient on the poor animal. Thus far, 3000 old grap . brandy remains an indisensable materia medica.

In whose hands hes the inculcation of mp rance principles? The schools, the burch, the home, above all the home, should be the natural sites for the propagaion of the great moral principle of modera iou. With the national tendency to grasp and adhere to good causes, the temperance les has rea hay found propagators. Energy nd zeal just as easily I ad to overstepping he mark, especially where only negative inrm ition, an I not sound knowledge guides. his has come to pass and increases in maters of temperance. Vitiating simplicity in ding, the outgreyth of zealots has generted into the absordity of prohibition. The lot of ignorance is on the geape growers in ur own State, who make raisins in some outhern countries, and have lat ly turned bur eyes to heaven, boasting that God's ood gift, wine, did not d file by the presne of any sample, the Agricultural flall Reverside. May they be eternally blessed nh sufficient equa pura to irrigate their ry souls. The miserable confusion of holesome, light, table wins with alcohol 18 made good people overreach the bounds he war against the multiplicity of superions drinking houses, where wine is hardgiven a place, has been extended also to ghting the true means of preventing alcoblic abuse. Ambitions lenders have stimated sentimentalism of excilent poeple, he only judge with the heart, to corrupt od s use, and the abortion prohibition as been dragged into politics. Who then e those that teach that perv reion of temrance, prohibition? Those teach who we no instruction, but that of abuse, and t upon the impulse of its proper condemttion; who addue only instances of consgrations, judge therefrom, and never inure, if fire, kept in bounds, and properly ed, is not a bl ssing. Those teach who Il not consult others who know both sides the question, and can better explain the ue of wine to mankind; those teach who ely consid rats slight inherent element apirit as the dang rous enbstance and in way distinct from distillates, those touch no, when they have the good fortune to e one of the hundred millions of soher et suddenly to see things about smashed d dehrinm tremens follow incontinently, d who are astomshed at the fact that that science, the true authorities on these mat-

wine can explain its nature, but they will key not listen; the blind teach those who can

Show me one habitual drunkard is a thonsand I-raelites. They follow the rules of their forefathers, and know how to use wine wisely. Where is the priest of the Church of Rome who violat a moderation in his daily glass of wine at his meals, as Christian like the clergy uses. Pope Leo takes pleasare in cultivating a vineyard in the Vatiena grounds, and makes his wine and drinks it. Intelligent clergymen of all denominations who know the truth about wine, there are few who practice and teach from the pulpit and by their example. There are others, not many of their class in other countries, however, who fail to admit mod ration to suffice and teach wholesale condemnation of all b verages, wine not to be excepted. This is regrettable. If they believe that they themselves, nor any on , can be trusted in matters of mod ration, well, their consciences may be at rest. But I pity the man of acalemical education who carries his underestimation of human strength to the extreme of thinking Christ's injunctions too difficult to be carried out.

A lady in Washington recently thought it exaggerating the danger of all drinks that an intoxicate. She did not see it in the Now, I found in a San Francisco school book the expression of the illuminated brain of its author that "wine is a poison." This is rather strong, and if that sentence is omitted in Eastern text books, of course the lady I spoke of may wish to have similar heresies ladled into juvenile intelligences at once through necessary currections of that stamp. I do not doubt but that some millions of eopies, containing such dangerous untruths, are poisoning the minds of the growing gen-

Can we rest on our laurels, and let the wicked work of ignorance and stupid sentimentalism proceed? We have our enemies, the extremists, near our skins. They do bite. Is there no remedy to let the truth about wine pen-trate the darkness brought on by our opponents? How can we protect our interests, which are the interests of truth against the absurdities of prohibition ideas, the ridicule, the astonishment of other nations, our contemporaries, living in this nineteenth century? Ours is a small community. We have friends though, and they are numerons. But prohibition is just now fashionable. Our friends, the frue temperance people, do not choose to trouble themselves about the progress of the absurdities of prohibition, to which no long life is goarnoteed, because they exceed truth. The bulk of the nation, the millions of moral persons, who live a righteons, sober life, and practice moderation, will see things in the right light. But some means should be adopted to spread light. Our allies in first line for the diffusion of light on the subject of nutrition generally and on the real nature and effect of our product, are the physicious. We should approach them and hear their expressions. We should draw them to the cause of truth. Too little heed is paid the medical profession to matters of ne consumers have his glass of wine, +1- high public importance. They will not shrink from the task of promoting the physical well-being of communities. Men of

individual remains really as sober as a tee- ters, should be called upon to clear out abtotaller; those teach who know not; those noxious perversions of clear facts and elucito whom a child used to its diluted dinner, date things of which they alone hold the

> The Society of Physicians of D. C. readily came to esponse the cause of pure wine. They endorsed our anti-bogus wine bill by a petition to Congress with great alacity Let action be taken at one by our Vitical tural Board to engage the faculty in this State in examining the pros and cons rela-

> A further step should be to antagonize the heresy of proscribing wine, by the compilation of a pamphlet-a catechiam, in which the naked truth about wine, the right in inners of its use, its effect as distinct from those of distillates, the nature of wine as the promoter of sobriety, he set forth. Let anthorized scientists prepare such little work; let a committee of men whose names are above suspicion occupy themselves with such important paper; let hundreds of thousands of copies go by mail all over the Union. Let light be made, for prohibition becomes bold, noisy and corrupt. True temperance will be mighty, for it is the cause of truth. Truth will prevail and live; true temperance be our cause.

#### GOOD WINE CHEAP

A traveller, in a letter to Bonfort's Cirnecessary, in the interest of prohibition, to cular, says: American hotel proprietors still more pervert text-books for children by charge \$1 per bottle for California wine, which costs them 20 cents. At that price, woe to the man to whom it is a necessity light of my translation of her id as though. And that it is a necessity, no man who valnes sound sleep and good dig-stion will deny. Will any hotel man admit how little be sells at that price? Or will any of them stop and consider for a moment how much more he would sell at 50 cents per bottle? Will any hotel man tell us why, if a guest drinks wine at his dinner, he, the guest, should not take his swig of whisky or brandy at other times?

In all the New York hotels the cooks drink California wines and the guests ice water. And that's why the American hotelkeeper "can't keep a hotel," and that's why we have so many cranks and so many dyspeptics, and so many people whose pet phrase is, "There ought to be a law," etc., and so many quarrelsome people, and so many people who want reform-for other people. But not everybody lives at a hotel, and those who take their comfort at home a few directions will fill a long-felt want. If you want your wine as cheap as the hotel proprietor bays it-not sells it -get off at the Bleecker Street Station of the Sixth Avenue Elevated Railroad, and you will find on Third, Bleecker, Houston and Prince streets, on either side of South Fifth avenue, and on the avenue itself, or French colony of wine dealers, who will furnish you wines from Romance Burgundy at \$5 per bottle to California wines at the rate of five bottels for \$1, bottles to be returned or exchanged. There is only one way, however, to be certain that your wines are old. Buy them by the package (keg. half-barrel, barrel or hogshead; the longer they lie in bottle the better they get, Bay your bottles. You have only one outlay on this head. Use a handful of hird-shot in in riusing bottles. Buy a common wood faucet for drawing, llave the package bored on either one head or the other before it is sent home to you. Then who your bottles are clean, your corks ready, soaked in a can of clean cold water, a slight touch will drive the faulet 10to the drinkers, 61 45 decidedly intemperate, cask- Use spiral corks, as they can ba 57.17

driven in without effort, and will leave enough surface outside the bottle to enable you to remove the cork with your fing rs. These corks can don be used again this way. A hundr I feet of common pine bord, with a handful finds; a haumer a da little saw to cut out not - - for the necks of the bottles to fit in, will be all that is necessary to construct a win close t. When you commoned to bottle see that your wine is perfectly clear. If, from change in the weath r, your wine should turn cloudy, and for your win -dealer; here his sci-ne will have to be applied. When once you have begun to bottle keep at it notil the package is empty. A pickage half full of dry wind will get sour. If, in the course of time, any of your wines should diposit much sediment rebottle carefully without stirring the sediment much, and you will he well repaid for your labor. These simple directions, if attended to carefully, are sufficient to make every man his own bottler. The best wines we have ever tast d came from private c llars. The owner of such a collection, the gathering of which is a labor of love and a refinement of taste, can justly be rated above the proud possessor of "Meissonier," as the latter h s in no mann r contributed to the existence of his treasure. We know of a man who to-day owns the largest vinevard in the world and will not sell any of his wines or braudies until they have arrived at a great age, who but ten years ago could o t show more then two kinds of wine in his cellar, and one of thes was whisky Now one word m re to my frien l. the hotel-keeper. Please don't discourage the drinking of wine in your diving room. Your bar trade isn't going to soff r. People who take their whisky at other times will not leave off because they have had a glass of wine at dinner.

#### DRINK AND DEATH.

## Statistics Which wall Sucpeise the Prohibitionists

A report on the inquiry into the connection of disease with habits of intemperance, prepare I by Dr. Isambard Owen, Secretary to the Investigating Committee of the British Medical Association, gives some startling statistics for the temperance people. Particulars have been obtained by the committee of 4235 cases of deceased hvers, aged twenty-five and upward, in which the habits of the person in regard to alcohol were record 1 in five classe total abstainers, habitually temperate, careless drinkers, free drinkers and decidedly intemperate. The ages of death in each class show an average as follow Total abstainers, 51,22 years: habitually temperate, 62-13; careless drinkers, 59,67. free drinkers, 57.59. decidedly intemperate, 52.03. This makes the lowest average duration of life that of the teetotaler and the highest that of the moderate drinker. his average being nearly cleven years longer. The habitual drunkard averages about a year longer than the total abstainer. Another table prepared by the committee, from which all douths under thirty were excluded, shows the following duration of life: Total abstainers, 57.31 habitually temperate, 66.48, careless drinkers, 61.52; free drinkers, 55 57; decided y intemperate, 53,42. Omitting lives under forty years, the average age of death was Total abstainers, 62.74, habitually temperate, 67.71, careless briokers, 61.40 free

#### CULTIVATION OF THE VINE.

The following paper upon the vine was read by Mr. J. G. Kelley before the meet ing of the South Australian Vigerons Association, held last month at Adelaide:

To any one first entering practically into the cultivation of the vine the question of pruning is one of the many perplexing subjects he has to confront, and it is one upon which there is, and always has been, apparently an almost confused diverity of opinions, for not only do all writers upon this subject appear to have agreed to differ, but each individual cultivator has his own independent opinions, sometimes practically exemplified in his vineyard, but oftener kept in reserve for the benefit of the nuwily beginner in search of information; but when we consider the immense variety of the vine itself, the various conditions of soil and climate, and the different qualities of wine required, and know that all these have a direct influence upon, and have to be taken into account when considering the question of how to prune, is this diversity of opinions to be met with everywhere to wondered at? Must it not rather be looked upon as a fact that must necessarily be and, to ascertain extent, likely to continue, although in a modified degree

Although there are many directions and principles for our guidance in pruning, and and also systems that with modifications are applicable to all countries where the vine is grown, yet there never can be any hard and fast rules. Knowing this, it is both instructive and amnsing when reading the works of some of the reputed authorities on these subjects, to note with what complacency they propound theories and lay down definite rules intended for the guidance of wine growers, no matter in what part of the world they may chance to be, blissfully ignoring the fact that what might be an infatlible rule in certain districts would possibly prove altogether wrong and inndmissible in other parts. What the primary objects of pruning are might be defined as, firstly, to promote the production of fruit, and secondly, to keep the vegetation within bounds: and the effect of good and judicious prvning upon the vine might be defined as the production of the greatest quantity of sound fruit, consistent with the age and strength, and and without diminishing the vigor of the vine, at the same time building it up or maintaining it in such a shape of form that will allow of the best and most economical working of the soil. By what means is the knowledge of how to practically regulate and stimulate the vine when pruning it, so that it shall fulfil the above requirements to be arrived at? The time at my disposal this afternoon will not allow, nor is there any occasion to bring under notice the various systems and methods that are to be met with in the different wine-producing countries. It will be sufficient for our purpose to only mention those two systems which with modifications are not only the simplest, the most useful, and generally speaking the most in favor in all wine-producing countries, but also to be found in nearly all the vineyards in these colonies. I refer to the ordinary rod and spur pruning.

In deciding the question of how to prune any given vine or vines, the following considerations must be taken into account, namely, the variety and nature of the vine itself, the qualities aimed at in the wines, the situation, climate and soil the age and

with regard to the variety and nature of the vine, take for example the following varieties, i. e., Mutarot Grenache, Carigasu, Doradilla, Muscat, Pedro, Gouais, and so on. They have a surt of independ ent, stiff and erect growth, with short joints, and produce abundant crops on the buds situated at the foot of the shoots, and require spur pruning. On the other hand, varieties such as the Shiraz, Carbenet, Reisling, Sauvignon, Zunte, and Cape currants have a drooping appearance and long straggling shoots, and are long jointed, and though they will produce small quantities of fruit when spur pruned, should always be pruned with rods and trellised or staked if they are grown with a view to satisfactory crops. In the second place, as regards the quality of the vine, it is well known that the height of the vine above the ground has a great influence on the quality of the grape, those growing close to the ground producing more sugar and less bonquet and flavor than those growing higher. As a general thing for vines growing on rich heavy lands it is found advisable to have the vine standing from 18 to 30 inches high, and for hillsides and dry situations the height varies from 9 to 15 inches. With regard to the influence of climate, sitalion and soil, these have to be taken into consideration in the question of the height of the vine and its size and shape. It is surprising to find how little attention is paid to these influences by some vinerons. It is not at all an unusual thing to find in some vineyards the vines growing upon rich strong ground cut downward and kept back to the same size as those growing on higher and drier situations, and those in their turn growing too large and heing over-

Lastly, it is, judging by the age and condition of the vine itself, that we know what number of spurs or how many rods to leave. You cannot turn a man into a vineyard with instructions to prune all the vines to four spurs, or to leave two spurs and two rods on others. From the very first pruning up to the time that the vine has attained its intended size and shape it is absolutely necessary that the proner should have the form or shape that the vine is eventually to have consistently in his mind, so that he may encourage the growth of certain shoots and avoid leaving others growing in directions that would eventually spoil the shape of the vine and and necessitate the use of the saw in after years. The less a vine is mutilated by the use of this instrument-namely, the sawthe better for its future well-being and health. At the same time, in the case of vines growing upon rich soils, it is often necessary during the first years to leave extra wood in order to utilize the superabundant vigor of the vine, but this wood it suppressed as soon as a sufficient number of spurs can be found on the permanent branches. In deciding as to what number of spors or rods, as the case may be, a vine is capable of sustaining the pruner is guided by the general appearance of the vine. He knows that a superabundance of strong, vigorous shoots is a sign that the vine has been too sharply pruned, and cousequently robbing the proprietor by rnn. ning to wood, and not producing the quantity of fruit it should.

If, on the other hand, the vine has a stunted appearance, he will conclude that it ts overtaxed. In a vineyard that has itself, the qualities aimed at in the wines, the situation, climate and soil the age and where the pruning has been conducted in a condition of the vire. In the first place, judicions manner, the different varieties of

vines will in themselves have a tolerably regular appearance, both as regards size and shape, and the vines will not have the numerous large sores or scars caused by the nse of the saw that are too often to be seen in some vineyards. The question of size and shape is, to a certain extent, dependent upon the distance at which the vines are from one another. If the vines are planted close together in the rows, it is advisable to give the vines the form of a fan or oval shaped. This also applies to trellised vines; but if the vines are planted so as to allow for crossworking with ploughs or scarifiers, the best shape is that which is known as the goblet shape. The simplicity of this form, and its general adaptability to the many requirements of the vine, and especially to those varieties requiring short or spur pruning, made it a general favorite in all wine-producing countries.

In the case of rod-pruning, some support

must be found for these rods; and the most economical manner of doing so is by means of wire trellising. One wire is generally sufficient for this purpose, and in the casof very low vines should be kept about six inches above the stock; but where the vines themselves stand a foot or more above the ground the wire need only be just above them, because the rods which vary ir length from two to three feet should be kept in a horizontal position, and where the vines are high enough to all it is even preferebls to have the rods bent in the form of a half-circle, the end dipping towards the ground. Most of the older vineyards in this colony were laid out upon the same principles as those in Europe, but experience has taught us that these systems are neither suitable to our climate nor labor market, for in the first place the vines were not allowed sufficient ground space from which to obtain moisture for their sustenance during our long and dry summer, and in the second place too much manual labor was required for the working of the soil. In these colonies, where land is cheap and labor scarce, it is very necessary when laying out young vineyards to do so in such a manner as to allow for the efficient and economical working of the soil by means of ploughing, harrowing and scarifying. if the vines are planted at right angles and at sufficient distances apart, the land can be worked in two or more directions with the acariner, etc., thereby diminishing the surface that has to be cleaned by manual labyr. In the case of vineyards the effect of good and efficient working of the soil upon the quantity and quality of the crop is, or ought to be, well known to all. No arguments ought to be required to prove that the vine will pay for all the extra labor that is judiciously spent in keeping the ground free from weeds and in good tilth. Examples of this are to be found in nearly every district, and one has only to go into a vineyard that has been well cultivated and take a general view of the crop before it is gathered, and then pass on to one that has been partially or wholly neglected as regards the working of the soil, and the first glauce will be sufficient to show him the effect of neglect in this particular upon the crop. Starting, then, with the fact that the vine

will pay for good cultivation, the next question is, What is good cultivation? As in the case of pruning, theee ara many theories upon the aubject; and although a general outline of the principles of cultivation could be given, the numerous varieties of withstands tha soils to be met with averywhere make it im-

possible to find any one method suitable for general application. Let a vigneron once become convinced that the vine will pay for thorough cultivation, and he will soon find the best and most suitable means to accomplish that eod. It is said that the fruitfulness of the vine and other trees depends upon the fine fibrous roots growing oear the surface of the ground, and that, as in the case of nature, where the ground is not disturbed, they are to be found just below the surface of the ground, and that by cultivating the ground deeply these roots are destroyed, and the fruit-producing capabilities of the vine thereby reduced. If this is so, it follows that where vines are growing in rich, damp soils, shallow cultivation should be observed; but on highlying and dry soils if these roots were encouraged to grow too near the surface, there would be a probability of losing the crops through the drying of the soil in summer, which would render these roots nseless to the vine, so that even supposing the roots nearest to the surface were most useful to the vine, tolerably deep cultivaion would be advisable-say, from four to ive inches. With regard to land of a warm, rich nature, where weeds start with he first winter rains and grow very rank, it is a good plan to scarify, or, better still, to run a cultivator over the ground so as ta bury and destroy the weeds By doing this, one ploughing later on will be sufficient; whereas, if the weeds are allowed to grew anchecked, two plonghings will probably be necessary. The usual routine of vineyard cultivation is, first-to plough the ground during the months of July sui August. The effect of this ploughing is to bury the weeds and turn down the surface soil, so that the surface roots may get the benefit of that which the ground has gained from the action of the sun, air and rain and leaves it loose and free for the after cultivation. The next process is to scarify across the vineyard, so as to cut out the strips that are untouched by the plough The spaces round the vine where the plongl and scarifier cannot reach are hoed out o

All these operations ought to be com pleted by the end of October, and in som situations earlier; but it is not to be sup posed that this is all that is necessary. the case of light, sandy soils, perhaps light harrowing or scarifying during No vember or December will be all that i necessary to render the surface of th ground perfectly free and pulverized, but i the majority of cases the land will requir stirring up several times during the fin summer months. This summer, cultivation has for its object not only the destroying of the weeds, of which there may, perhaps be very few, but also-and this is its mo important function-the formation of loose, free, pulverized layer of earth, which will act as a sort of blanket and check of prevent the evaporation of the moistur from the underlying ground. It also r ceives and absorbs the sun's rays, keepir the underground cool.

C. A. WETMORE began picking Caberne grapes in his Livermore vineyard, las week. They run 23 per cent, in suga From one Cabernet Sauvignon vine trains on the Chaintre system, 205 bunches we taken, weighing 32 pounds. The exper ence of growers in this valley during'tl past hot spell, shows that the Cabern withstands the heat better than any oth

#### CASKS FOR WINES.

The following is a copy of a letter received by Messrs, Harold Brothers of Adelaide, S. A., from a leading firm of coopers in London: "We understand that there has been some correspondence in your colonial papers with regard to the respective merits of new and secondhand casks, and that the use of the latter in preference to the former, for the shipment of colonial wines, has been advocated, on account of the coloring and flavoring matter (re tunnic soid) existing in the oak from which the new casks are made. How is it possible for any person, having the interest of Australian winegrowers at heart, and having a thorough practical knowledge of the subject, to advocate the use of secondhend or remade casks in preference to new, we are quite at a loss to imagine, We should very strongly advise all colonial winegrowers to make careful inquiry into the system pursued by continental wine shippers before accepting such advice. If they do so, it will be found that all the large growers of wines, possessing any character, not only use only new caskbut are very careful before putting their wine therein to extract all the tannic acid therefrom.

"It will be found also that next to the manufacture of the wine itself the greatest possible care is bestowed upon the preparation of the casks before they are used. It certainly does seem the height of absurdity, after using the utmost care and precaution to produce the beat possible results in the manufacture of the wine, that the grower should, possibly for the sake of saving a few shillings per cask, or otherwise for the want of a proper share of attention to what is, perhaps, considered a mere matter of detail, deliberately throw away all the time, care and expense, to say nothing of profit, by using vessels which are more or less sure, injuriously, to affect his wine; and, worst of all, probably destroy the potentialities within grasp of the Australian winegrower by securing for the wine the unfortunate reputation of never at one time being alike in character, palate, aroma or any other respect, and frequently being undrinkable. There can be no doubt that Australian wine has a great fotore before it if growers will only use every possible means to ensure that their various distinctive growths shall always arrive here as near alike in every respect as possible. This desideratum will never be attained by using secondhand basks which are thoroughly impregnated with the distinctive character of whatever liquor they originally contained, be it wine, spirit or beer, and it, being ntterly impossible by any or whatever process to entirely eliminate from them every traca thereof, the result is your wines arriva possessing, to a greater or less extent, a taint of the original contents, to the utter destruction of any consistency of character in any one shipment, while different shipments vary in accordance with the casks which the shipper may have happened to use.

"A further grave objection to the use of objection to the use of second-hand casks rests in the fact that it is utterly impossible to guard against the probability of their having been more or less foul at one time or another. This defect can be easily remedied, so far as the nose is concerned by refiring, but nothing can prevent the wine from taking it up, however slight it may be. And there is little doubt that this de- use. Some use salt with the first charge, who use graps must as a dairy drink, with substance that should never be suployed.

casks, and cannot by any manner of means be guarded against, is largely responsible for the condition in which many shipments of wine have arrived hers. Now, in new casks you have an absolutely virgin wood, possessing all its original life and vigor and a flavor and aroms of its own, untainted by anything foreign to its nature. The ouly objectionable feature therein existing being the tannic scid. This being properly extracted by a p ocess applied exactly alike in every respect to each eask, you will have a vessel which will carry your wine for any length of time without imparting the slightest taint of any kind. Where new casks have been used, and the wine has been injuriously affected, the grower has not taken sufficient care in preparing his casks before using, and the fault rests with him entirely and not with the casks. As we have said before, continental wine growers season their new casks satisfactorily. and distillers also season new casks, so that even gin, than which there is no liquor more susceptible to flavoring or color, and if colored to the slightest possible extent is commercially spoilt, is not affected in any way. Brewers here in England elso, especially those who ship pale ale, give the greatest possible attention to this matter, using for shipment new casks only, and seeing that they are properly seasoned before being filled. Now if, to say nothing further of browers and distillers, continental wine-growers can, and do, surmount the difficulty of using new casks, and find that to do so answers their purpose beat, why do not Australians follow in their footsteps' They have experience, and experientia docet. In this matter we do not ask growers to accept our version as the correct one, but would most strongly advise them to enquire carefully into the matter, and neither accept our dictum nor that of others. At the same time we do most strenuously assert that new casks, properly seasoned or pickled, may be used for the most delicate wines without the slightest fear of any injury thereto, and we can further assert that new casks are infinitely preferable, from every point of view, to second-hand casks for the shipment or otherwise of wines; and that beyond a certain point the question of cost to a grower should be quite a secondary consideration to that of getting the most suitable casks for his wines, buying the lowest priced article he can get being the very greatest of false economy

" Now, in regard to the best mode of seasoning or pickling casks, there are so many different ideas on the subject, and the possessors of the various ideas each think their own method the best, that it is very difficult to lay down any rule, more especially as different wines possess their distinctive and peculiar characteristics, and the casks need to be seasoned accordingly. Many use nothing but boiling liquor, charging the casks about twothirds full and letting it remain in for a certain period, varying, according to the operators' idea. from four to twelve hours. shifting the casks about from time to time as it lays on the houge to keep the liquor lively and ensure its reaching every part of the cask. After remaining in as long as the operator thinks fit the liquor is emptied, and the operation repeated again and again until such time as the liquor runs out colorless, when the cask is fitted with cold liquor to barden off, and after standing some time should be ready for operation as above, but while either, undoubtedly, hastens the operation, whether it is best in other respects we give no opinion. We strongly advise growers to make a series of careful experiments and ascertain for themselves which particular method of the application of the general principles laid down suits their own vintages the best, taking cure that all the details of the various experimental operations are carefully noted, and once having discovered the process which suits his wine best, have all the various details most religiously carried out in all future preparation of casks. Australian wine, shipped under these conditions, will leave the Continentals far and away behind in course of time, but shipped in improper casks will be the means of nipping in the bud what promises to be a gigantic trade with the mother country."

#### GRAPE JUICE AS A DRINK.

The question of what we shall do with that part of our second crop of Muscat grapes which will not have time to dry, says the Kern County Californian, is of importance to all our raisin-men, large or small, especially the latter. We believe that we could not possibly turn it to any better or more profitable use than to make it into grape juice. Comparatively few people know what a delicious drink grape jnice is, especially the juice from Musest grapes, The second crop of Muscats is, for this purpose, much superior to the first, as it contains more acid and less sugar, the family table, for drinks between meals for the thirsty farmhand, there exists no more refreshing nor any wholesomer drink than the freshly-squeezed juice of our grapes. The drink has been much more appreciated in Europe than in America, though even here the last few years have brought the grape juice into favor, not alone as a drink to allay the thirst, but as a drink with great curative powers. In Europe there are at least twenty places famous for the sanitarium with grape cores. Most of them are situated in Switzerland, and people from all the north of Europe flock to them during September to be banefitted by the cura tive power of the grape. The grapes are picked, crushed and heated every morning, and immediately cooled off by running through pipes over ice. According to prescription, the patients drink from one to five glasses every day, nearly always with the most beneficial effects. The diseases cured by the grape cure dyspepsia, liver and kidney troubles, im-No place is pure blood, and many more. better adapted to the establishment of a grape cure than Fresho, and no doubt in time one will be established here. meantime, however, we could use the grape most to advantage ourselves, not alone for home use, but for that and export. The citizens of any of our towns can hardly afford to buy grapes at second or third hand and press the juice and drink it, but it would be very different with the second crop, which else would go to waste. The vin yardist himself is the proper one to extract the grape juice and prepare it, and it would be no inconsiderate additional me one for the house wife to be able to put up several hundred gallons of juice for side and dispose this same at good profits to the town people I now know of many families in town

feet, which is very commun in second-hand others use sods, afterwards repeating the the most beneficial results; and we know of many who would only be too glad to buy if they knew where it could be had. A certain well-known Fresno lady, for years hopelessly ill with dyspepsia, has been apparently entirely relieved only after ten days daily use of grape must, intends putting up enough to last her until next fall. But we believe that, besides the home consumption, an export trade of no inconsiderable extent could be worked up, and an establishment for the manufacture of grape juice would undoubtedly pay well. We would have all the temperance State for a market, and many of the other States, for that matter, too. People who, for religious, moral, or physical reasous, object to wine, bowev r light or wholesome, will eagerly accept the pare, unfermented grape juice as the very best of drinks. The manufacture of grape juice on a small scale is easy enough. Crush the grapes, boil the piice immediately after the heavy matter has settled, bottle and cork while hot. It will keep like other preserves. For export it would be desirable to have the grape juice clear. The grape juice should first be allowed to stand twenty-four hours in strongly-sulphured casks, so as to allow all sediment to settle, then be boiled and bottled hot. The same apparatus that is used for heating wine could be used to advantage. Grape juice treated this way will be brilliantly clear and only sweet cuough to be pleasant. Fifty million gallous could be sold every year in the Eastern States. It would not run opposition to the wine, but it would become the drink of every family who could not afford or care for the expensive wines,

#### NATURAL TEMPERANCE WINE.

There are few subjects to which there adhere so many wrong impressions, crude and uctenable ideas, says D. S. Marvin in Popular Garde ing, as to the wine question. Let the average sgitator of temperance principles he told about temperance wine, and they have never heard of it, and perhaps will not believe there is such a thing. when in reality all genuine unfortified wine is a natural temperance drink, but especially the natural unfermented juice of the grape just as nature gives it forth. The latter is a little more difficult to keep fresh than is the fermented juice, but modern science and the resources of the culinary department of every well-ordered kitchen are ample for the purpose. All that is needed are the processes applied in fruit canning, and this same natural temperance wine, the best of all beverages ever used by man, comes out pure and fresh, just as you open a can of peaches or tomatoes. In canning, the natural juice of the grape may be directly used, or it may be boiled down by a low degree of heat, and then diluted when opened. For sick people, for children, for aged people, for all sorts and conditions, it is a delicions, nourishing drink, acc ptable in lead to the strictest sect of temperance people. California sees the the grape by the barrel and ti-ree. old way of preserving grape I nee that has come down from harberian ages namely, as fermented win if mad from the natural juice, alone is no more barmful than lager borr, while it is a th usand times nore delicate and medicinal in its nature In this form it pessesses but a small per-cent of alcohol and the alcohol is committee ther, not the dangerous amyle alcohol or fusel oil. The trouble in the castors fortify their win s with this amylic alcohol to increase its keeping qualities, a

#### AUSTRALIAN WINE GROWING

Everything tended to make the paper upon wine-growing which Mr. Castella rend before the Royal Colonial Institute at its last meeting, a success, except that the discussion was very limited. In the room itself there was pleuty of material there being representatives present of all the colonial wine firms, but whether or not from the feeling that Lord Carnarvou's speech overshadowed them, they would not rise to speak even at the bidding of the Chairman.

Mr. Castella began his paper by declaring his enthusiastic belief in the future of the Australian wine trade, a belief strengthened, as he said, by what he has seen and tasted on the Continent. As a further preface to his subsequent remarks Mr. Castella gave the acreage with each colony has under culture, and the quantity of wine which is produced. Sout Au-tralia in this computation stands third on the list with 4,500 acres and 473,535 gallons, but Mr. Castella explained that the latest returns that he enuld get for South Australia were those of 1884, the colony thus stood at considerable disadvantage compared with Victoria and New South Wales, whose returns were as late as 1886. Mr. Castella then went on to say, notwithstanding the totality of 22,905 acres which were under cultivation, that compared with their immense territories, the aggregate production of our colonies is very small, yet it is sufficient to 1 rove that they can grow good wines; and that their taking a position amongst the wine suppliers of the world, especially as suppliers of their own people -the people of Eogland-only depends upon the prudent management of their great natural advantages. The early history of wine-growing in Australia was then reviewed, with its varying success, until the awards of the Exhibitions in Paris, Vienna and London proclaimed the quality of some of the colonial wines.

In the earlier days, remarked Mr. Castella, alcohol, the great concealer of defects, was extensively resorted to. Almost from the first, the use of 50 gallon stills being allowed, without supervision, to those possessed of five acres of vines, this in colonics where the duty on spirits was at times 12s. per gallou. South Australia received special attention in this connection. There, said the paper, a vine-grower enuld in those days buy spirit 60° overproof, duty free in bond, German spirit, worth only half a gallon, mix, free of duty, such spirit with his own wine under the supervision or a Custom officer, until his so-called wine contained 35 per cent. of alcohol, and, after such addition, take back such a mixture to be sold as colouial produce. Mr. Castella then proceeded to descaut on several points of importance conneeted with the growth of wine, and selected as the most necessary for success the careful selection of selection of the variety of the grape vine-"it is the one which it is most necessary for the vigneron to be conversant with, since its choice may modify the influences of the climate and soil, over which, once established on a given spot, he has no control. Planted alongside of each other, and their fruit gathered in a similar state of matnrity, two different kinds of grapes may give, one a wine of 18° of alcoholic strength, the other a wine of 25°." It is therefore absolutely essential to all success that vignerous should have a practical knowledge of the

yield that class of wine. The next great point in Mr. Castella's opinion is to have a clear conception of the class of wine which it is best for them to produce Upon this, Mr. Castella has come to the conclusion that London being the debouche for the colonies, an examination of the class of wines chiefly consumed there will give a fair estimate of what ought to be cultivated. The paper emphatically states that, "Half the consumption of Eugland is now composed of light wines," and this is amply enpported by statistics. Further, in regard to the choice of grape vines there occurs in this portion of the paper the following remonstrances:- It is quite a mistaken notion to believe that time must reduce to the same type, in the same locality, a producduction from different cessages.

In Burgundy, for example, the Pinnt is the basis of all the fine wines; the Gamay, a heavy-bearing grape, that of all the com-Both kinds have been cultivated alongside of each other for ages without being assimilated, the wine made from the one remaining worth three times more than that made from the other. But upon the matter of the choice of grapes, it is urged that Australia is specially fortunate, as the founders of her wine industry were men who imported their plants from the districts of Europe producing the best

There is such an abundance of good advice and kind remonstrances that I have great difficulty in making selections. I must not pass over at any rate the judicious counsel which Mr. Castella gives about the gathering of grapes. But for the common error, he says, in warm districts of gathering the vintages when too ripe, Australians would not have been so long in establishing the reputation of their wines as high-class vins de table: the red resembling closely, as they do, when judiciously made, the Cote-Roties of Hermitage and the Cortons of Burgundy, the white, the red, and fragrant Steinberg of the Rhine. The following general rule may be gathered from Mr. Castella's further observations upon the gathering of grapes for a vintage:

In enol countries they should be gathered as late as possible, in warm countries as early as practicable. Mr. Castella further pointedly asks who drinks sweet wines, and thinks it a deplorable error to offer prizes for sweet wines for competition to a community of hard working men, who are nuable to judge by themselves of the present consumption in the far-away world. He exclaimed again upon another viticultural matter that it is the greatest service to proclaim that wine may be kept within 26° of alcohol, or at least within 28°, as the extreme limit in natural wines,

The paper then proceeds to point out that owing to the phylloxera and other disasgrous conditions on the Continent that Australia has a glorious chance, but Australia "must not loiter. A few more years will perhaps see abundance restored to France, and poisonous alcohol curtailed in its evolutions." The last report on the 1887 crop of wine in Franca which runs thus, leaves plenty of room for improvement:-The quality of wines of 1887 seem to be a little superior to that of the wines of the previous vintage, but their alcoholic richness remains weak. Viticulture is more and more compelled to result to the use of sngar to smeliorate the quality of its prod ucts and to augment them. At the end of

climate of their respective provinces, will for additions to musts of wines and ciders amounted to 36 millions of killogrammes. It has been calculated, I believe, that each nere of France under vine culture demands now 14 hs, of sugar to keep the alcoholic strength of the wine up. Not only too has the quality of the wine fallen off, but the quantity too, the last French vintage being 535 millions of gallons as compared to an average of 1.235 millions of gallons between 1873 and 1878. Circumstances such as these pathetically remarks Mr. Castelle, are the opportunities of our colonies, 'but we must tske ndvautage of them at once, for it will not be long before they mend." The paper then went no to support the suggestion of appointing a Government specialist upon wine growing, which would be invaluable to the wine growers throughout the colony Such a man should travel, according to Mr. Castella, over Spain, Portugal and Greece, come back through Hungary and the Rhine, and after becoming conversant with the en semble of the production, pass three months in Eugland, studying the present supplies from the colonies, and ascertain through the leading clubs and good society the exigenoies of success. A specialist, if appointed, would have plenty to do if he did his duty, for millions of acres in Australia may be made to produce wines of such quality as to command a high commercial value, but it is particularly in the in the coast districts that the delicate ones which establish reputations for whole provinces can be grown.

> The paper then goes on to relate some incidents of early competitions in the colouies, when, for instance, a Victorian sample was adjudged better than a Chateau-Lafite. This decision demonstrated to us wine growers, saya Mr. Castella, that the variety of the grape plant-le cessage-produces nuder similar conditions of climate and soil, the same wine in every country.

Mr. Castella observes that he has enjnyed at various times the wonder of wine merchants of erus famous in France, at the similarity of our products to their own. Many such statements are made, very encouraging to the vigneron. Attention is also drawn to the advice of the viticulturist whose services have been seepred by the Government of the Cape Colony, that wines of light color should be cultivated, of little spirit and much bouquet, as well as fine vines, particularly that of the Syra of the Hermitage, for the Cape Colony and the southern parts of the Australian Continent are in the same latitude and possess similar climes. May we not hope, saya Mr. Castella toward the end of his paper, that federation will impress upon Australian industry the same impetus which is given to a chariot when, freed from jibbing and rearing steed, a team of good herses rush together into their collars. Wine growing would particularly benefit by it. For instance, if the colouies had been as one concerning the wine exhibit at the Indian and Colonial Exhition, if there had been a single head of the Australian wine department, from whom all information could have been ohtained, instead of its having to be sought for in all directions, no slight inconvenience and disappointment might have been avert-

Mr. Castella, too, calculates that the financial profit upon Australian wines sold in London proves that Australia can now take her share in the wine trade of Europe. "In conclusion," saya Mr. Castella, "let the Australian motto always be, 'Quality alone, and quality forever.' Thus may we hope varieties of grapes, and which, under the last October the quantity of sugar declared to establish a foremost reputation in the

markets, not only of the mother country, but of the wide world." The Earl of Carusryou, who opened the discussion declared thet he was enrprised at the high quality of many of the wines which he had tasted, when on his recent trip to Australia, but, forebore from following the reader of tha discussion of their particular merits. Mr. Collyors Levey followed Lord Carnarvon by some personal tributes to the merits of Mr. Castella, regretting and declaring smid much laughter that it was a decided want of patriotism uppu the part of the Australians not to drink more of their own wine. Sir Frederick Young who was in the chair, called upon Mr. Burgoyne to speak, but notwithstanding land calls from the audience, that well-known wine merchant stead(astly kert his seat, and Sir Charles Mills then arose, regretting the scant notice which the Cara Colony had received at the hands of tha reader of the paper; and then referred to the spirited action of the Cape Government in establishing viticultural farms and speeialists but he could not agree with Mr. Castella that there sould be one expert for all the colonies, Sir Charles thinking that each wine-growing colony should have ita own man. He gave expression to his belief that it was a great mistake that the Indian and Colonial Exhibition had not been extended into the jubilee year. Mr. Moncrieff Paull followed with the declaration that it was on account of the want of Intercolonial free trade that more colonial wine was not drunk in the colonies themselves; he said, for instance. South Australia would send to Victoria only a duty barred the way. Regret was also expressed that a more carefully manufactured wine was not sent home to England. As no more speakers were forthcoming upon this important subject, the Chairman summed up the discussion, calling to mind that upon June 20, 1876, the Royal Colonial Institute had had a previous paper upon colonial wines, and that he himself had occupied the chair.

#### HOW TO EAT GRAPES.

No! the man who holds the grape between his thumb and dexter finger and squeezes or shoots the pulpinto his throat, does not know how to enjoy the fruit, and is not likely to appreciate the good qualities of a fine grape. Let the berries follow each other into the mouth in rapid succession until three or four are taken, while with each insertion the teeth are brought together upon the seeds without breaking them. The acid of the pulp is thus freed to mingle with the saccharine juice next the skin, and a slight manipulation by tha toogue separates the seeds and skins from the delicious winey juices; after this has tickled the palate, skins and seeds may be ejected together. Close to the skin lies a large part of the good flavor of the grape.

San Francisco, September 1, 1888.

The Bradstreet Mercantile Agency reports sixty-seven failures in the Pacific Coast States and Territories for the month of August, with assets \$109,980 and liabilities \$185,000, and sixty-nine for the corresponding month of 1887, with assets \$296,026, and liabilities \$2,359,643.

The failures for the past month are divided among the States and Territories as follows:

STATE.	NO. 53	ASSETS. \$82,170	S198,505
iregon	5	8.350	8,40
Washington Ter Arizona		14,200 5,250	23,000 11,350
	67	\$109,980	\$251,258

#### GROWING THE OLIVE.

A correspondent of the Rural Press says: I wrote you some time ago an article describing my plan of brush mulching for for grapevines. I have this year tried the same method on olive trees that were planted March 1st, and have had good saccess. I have so far saved about 95 per cent, notwithstanding the fact that they were planted on newly cleared land which was covered with the thickest kind of chaparril on the first day of the year. The ground being rough and fall of roots, ffood cultivation was quite impossible. I did the best I could, however, and continued cultivation late in the season.

I find one great fault with beginners. and that is that they stop cultivating too soon in the season, and the long droutlproves too trying upon trees and vines not yet well rooted. My olive treees were very small when set out and will not make much growth this year, but they have such a vigorous look that I have no doubt about their future thrift nutiess checked by some ox of tionally cold snap.

A large number of olive trees wer planted in this county last spring, and, i reports be correct, most of the planterhave been quite aufortunate in losing heavily during the spring. It may have been from careless handling, or the loss may be caused by climatic changes being too severe for delicate plants.

The past season was extremely unfavorable for tree and vine planting, being cold and dry during the early spring, followed by a hot April. Luckily May, June and July proved quite cool, or the result would have been disastrons to all planters. Whatever may have been the cause, the truth is evident that our tree and vine planters lost heavily. One gentlemen put out 2,000 young olive trees and had lost 1500 of them early in the season, while another neighbor lost 60 per ceut of his olive plants which were the very best kind obtainable in the market. The last-named party irrigated his trees with his trees with the resolt as mentioned. I am only an amateur in this line of business, but I have taken especial care of my trees and vines and have been quite successful. I give close attention to putting my trees in the ground in the proper shape and also cultivate with continued exertion.

I may as well mention that some of our losses may be attributen to the careless manner in which unreerymen handle the stock sent to country customers. The trees look as though they were dog up and allowed to lie in the wind and sunshine lafore being packed until the sap was dried up. Peach trees are easily effected and many are received which are quite peyond any hope of resurrection. The farmer who planted the larger lot of olive trees spoken of received the trees during the winter's coldest weather. They were packed with balls of moist clay around the roots, which is an excellent plan usually, but in this case the extra care was rainous, for the moist earth, perhaps, become frozen, which would doubtless cause the death of any evergreen tree or shrub. Again, the plant ing was done in a slipshod manner and no proper eare taken to place moist earth nearest to young roots. It is, then, a wonder that heavy losses occurred?

I have found it best to have roomy and deep holes dug, and when the tree is half covered with earth give it a bucket of water, after which place the drier earth on

top and your tree will most likely pull the trying ordeal of transplanting.

One more item about olive plants is the manuer of their propagation. Many of those offered in market are grown under glass in hot houses and are so tender and ensceptible that when exposed to the frosty nights of March they are apt to be cut lown and thus lose the benefit of an early start. Some of mine were thus out down. but put forth fresh shoots near the ground. Olive plants might be grown in the open sir, I would think, and thus become hardned enough to withstand ordinary foothill frosts and would be much preferred by hase turning their attention to olive-grow inn. It is an industry only yet in infancy, and we have thousands of acres of land throughout the State awaiting the coming d the patient planter to make our land low with a stream of the richest oil found n the glabe. The olive is one of the comng fruits, and the planter who succeeds in ccuring a grove of these wealth-giving rees secures an income better than that of d G vernment bonds. Plant the olive and t will give your old age the means of reirement and comfort, and those who will tilessed."

But tree and vine planters must learn by the hitter teacher, known as experience, that merely slinging in the ground their trees or vines will not end their labors; then the work just begins. After planting the trees, many seem to adopt the motto of

"Root, little tree, or die," As eternal vigilance may be the price of liberty, so also that and ceaseless toil is the price demanded to insure the success of the orchardist in our climate.

#### A CO-OPERATIVE WINE CO

The Larkmend Co-operative Wine Company has been formed to transact hosiness at Larkmend, a station about four miles above St. Helena. Following are the name: composing the company: J. C. Farmer, W F. Burke, Mrs. A. C. Furniss, of Larkmead, W. L. Phillips and Mr. Steele, of Calistoga. This is the company we spoke of some some time ago. The cellar of Mrs. Furuiss has been leased and those interested will make up their crops and conduct the husiness entirely upon the co-pperative sys tem. We hope to see the plan succeed, and we have no doubt but that it will. Others should adopt a similar plan.

THE MINISTER of Agriculture has been taking a census of the lowls of France, and he informs us that the country contains 45,000,000 hens, worth, on an average, 50 some after you will "rise up and call you cents a piece. One-fifth of these hens and 2,000,000 rocsters are killed annually, and they sell for \$5,000,000 in the market. The other 36,000,000 hens lay about 3,060,000,eggs every year, worth I 1-5 cents apiece this sum nets up not less than \$36,740,000. Therefore the chickens of France produce \$67,200,000 a year.

#### GRAPHS SHOLLD BE CATES

Farmers well understand, says the Mich. ioan Hartic ellural Report, if they keep their horses on too concentrated diet that their stomachs get out of order, and they have to be turned out to grass to give them a chance to recuperate. The human animal suffers as much from the violation of Nature's laws as any other. Our dyspeptic stomachs are constantly sounding the alarm from our eating too much fruit and too little fruit. Our system is constantly calling for the elements contained in the onter covering of our fruits, grains and roots. Twelve thousand dutiets are employed in the United States, hammering gold into our teeth, mainly because we live on an unnatural diet - Too concentrated and refixed food

As fruit is largely indicated as a requirement of our system, how shall it best be enten to fill the demand? It has been demonstrated by chemical analysis that a large part of the bone-making material is found in the skius of our fruits, grains and roots. This brings us to the test of a good grape. No grape should be considered good naless it can be eaten pup, seeds and skins, with added relish. At the grape cures in France the patients are required to cat the pulp, skins and seeds, to get the full benefit of the diet-tic treatment. At the in-briate cures, all cases are considered hopeful where they can be induced to cat largely of fruit, the fruit overcoming the desire and destroying the taste for hounr.

## EAST BOUND THROUGH FREIGHT.

Forwarded by the Southern Pacific Co., August, 1888.

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	Aaticles.	SAN FRANCISCH	OCELAND	Los Angrezs.	C LTON.	SACILAMESTO.	SAN JOSE.	STOCKTON.	MANYAVILLA
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	Reans	85,600							
	Books and Stationery	10.820	7,300						
r	Boras	114,230	16,850	*****					
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	Canned Goods	6,118,690		103.740	120,500	738,350	1,503,500	41111	\$78,560
e [	China Merchandise	107,790							
	Chocolate	7,040				******		14 1	
- 1	Cigars	1.410							
- {	Clothing, California Manufactured	57,110							
	Coffee, Green	166,920		********		1.070			
^	Uruzs and Herbs	21,430				1,270			
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۵	Lumber	45,490		28,700		24,000			*****
c	Machinery	2,270				44.450			
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	Mu chandise, Asiatic (in bond)	99,890	*** ****			****			
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0	Powder	1,000	20,000			97,100			
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Grand Total

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E. C. Hoones & Co., - - Proprietors. Office, 511 Sansonie street, .... Postoffice Box, 2366

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#### FRIDAY......SEPTEMBER 14, 1888

THAT OLIVE colture has taken hold in California may be readily judged from the constant reference made to the plantation of new orchards in the press of the interior counties, and the general interest displayed ia everything which pretains to the industry. On the whole, the results for the year have been satisfactory, although, of course, disappointments are heard of in some quartera, owing to inexperience on the part of the planter. Much difference of opinion exists at present on many points in regard to the varieties adapted to our climate and the localities suitable for their cultivation. One of the best proofs that those who have gone into the business are not discouraged by the adverse opinions expressed in some quarters is the constant increase which is going on annually in the acreage of plantations throughout the State. The following instance, worded by the Auburn Republican, is a fair sample of what is going on else-

William Shillingsburg now has fifty acres of olive trees on his ranch at Gold Hill, planted 108 trees to the acre. He has planted ten acres this year, and will add largely to his orchard next spring. His oldest trees were three years old last spring and have trunks which average two inches in diameter. Mr. Shilliogsburg does not irrigate at all, but depends wholly upon cultivation, and he is meeting with the most aatiafactory results. Last spring, for example, he finished pruning the trees by the 1st of February, and they were pruued so that the lowest limbs are four feet from the ground. By the 1st of April these trees had made such a growth that he was compelled to prune the whole orchard again. This is a good showing for cultivation. Mr. Shillingsburg thinks that most of our olive growers do no prune high enough from the ground, and four feet is his rule, so that a cultivator may run close to the trees.

THE GRAPE growers of Sacramento, representing over 2000 tons, have appointed a committee, to negotiate with wineries. If our prices be not obtainable, the entire product will be dried. In Livermore vallay some 1200 tons are tied up under a similar agreement,

The special committee of Grape Growers' and Wine Makers' Union have rendered an interesting report as the result of their investigations into the condition of business. It says: We believe a liberal estimate would amount to 17,000,000 gallons; of this, 12,-000,000 will be made in the Coast counties; of the remainder from the interior, a large part is annually converted into brandy and sweet wines. Altogether, over 4,000,000 gallons of wine will be distilled, leaving inthe neighborhood of 13,000,000 gallons to be offered for sale during the coming year. We find the consumption of wine on this Coast to be about 5,500,000 galluns, and the exports 7,500,000. Thus, it may be seen, that there is no present overproduc tion. We estimate the total amount of '86 and '87 wine in the makers' hands at 4,000, 000 gallons-only about one-third of which is for sale. With these facts in mind, we caution our wine makara against a aacrifice of sound marketable wines, believing that prices must soon be better.

This will make the total output less than in 1886, but a little more than in 1887.

The committee further recommends, as a remedy for low prices, the suppression of all inferior grapes and wines, and advises the drying of all grapes of the Mission and Malvoisie varieties.

THE ANNUAL report of the Viticultural Commission, which has just been issued. contains a vast amount of information valuable to the vine-grower in relation to planting, and destroying insects. The reports of the Commissioners from the different districts show the that grape-culture has been steadily on the increase. J. H. Wheeler, Chief Executive Officer, says he finds the greater part of wins to be produced in the bay counties of Napa, Sonoms, Santa Clara, Alameda, Los Angeles and Fresno, while Yoba, Tehama and Shasta counties have proved to be raisin counties. Solano, Sacramento, Placer and other foothill counties are producing the bulk of the grapes designed for Eastern markets. The local markets are well supplied by Solano, Sonoma and Santa Cruz counties, the latter being pre-eminently suited for the production of the late table grapes.

Owing to the length of time required in bringing forward an olive orchard into a stage of profitable bearing, the desirability of obtaining trees of certain growth is obvious to all intending to enter the business. An opportunity is now offered by W. A. Hayne, Jr., of Santa Barbara, whose advertisement will be found in another column, to purchase an extensive planta tion of this valuable tree. The offer is one which is not met with every day in the year, and is worthy of attention by those interested in the future of the olive in Califor-

THE LATEST reports received from the interior by the Secretary of the State Viticultural Commission are as follows:

In the Livermore valley the weather is very dry and warm, but the fermentation is progressing favorably.

In Santa Clara and Sonoma districts, picking the crop has hardly commenced, but in the latter district the Reisling has been fermented with much success,

THE WESTINGHOUSE Electric Company has recently perfected an incandescent lamp, which is expected to burn from 2000 to 3000 honra without discoloration.

A San Jose paper continues to pick away at the Viticultural Commission, which is held responsible for every unfortunate turn in this business. The fact that the editor owns a vineyard, for the crop of which he has only been offered at the rate of \$9 per ton, may account for his apparent desire to prove a short crop, hoping thereby to raise the market price of grapes. With this knowledge of the inside running, his entirely disinterested opinions on the merits or demerits of the Commission may be fairly questioned.

THE RECENT hot weather in the Napa Vulley has had the effect of reducing still further estimates of wine yield for the year. The falling off is especially apparent in the white wines, which are consequently more active at higher figures. C. Carpy & Co., of Napa, were the first to begin crushing in the valley. The grapes coming in from Davisville. In the matter of pricea, the Catistogian says: "if grapes have been sold for wine more than \$12 per ton we have not heard of the fact. Sales of Melvoise are reported at \$8.

Wine-making in the vicinity of Cloverdals is reported very far advanced for the season. Nearly all of the wine-makers have been active in commencing early so as to avoid the great amount of sugar which accumulates by over-ripening. It is estimated that the yield of wine will fall short 50,000 gallons, owing to the drying of grapes on the vines on account of the hot weather. The prices of grapes are said to range from \$6 to \$9.50 per ton.

THE American Agriculturist has some interesting statistics of savings banks in California, where the average is in excess of all other parts, being \$788 for each depositor. In France more than 2,000,-000 depositors are credited with \$503 each. In Rhode Island the average is \$501; in Vermont \$361. New York has an average of \$349, and New Hampshire \$335; Massachusetts has \$309; Maine \$328, and Connecticut \$255. France, as is well knowo, is one of the most thrifty countries in the world, and the saving habits of her laboring classes are remarkable. The large average shown by Califoruia is proof of the claim that is so often put forward for that State, that wages are, as a rule, higher there than elsewhers, and that the expease of living, particularly of food, is less than on the Atlantic seaboard, and that the climate is such that labor is employed during all the venr. There aga none of these long breaks in employment which occur in the States of the Eastern and central parts of the Union. The grain fields are ploughed and sown between November and February, then follows the care of orchard or vineyard, notil the period of having or harvest in May. The harvest period lasts along until it rounds out the year in October.

THE LATEST San Francisco prices for grapes are as follows: Rose de Peru, 35@ 50c.; Muscat, 35@50c. per box; Malvoisie. 15@45c.; wine grapes (per ton), \$18@20; Tokay, 30@ Coc.; white grapes, 25@ 40c. Isabella, \$1@1 25.

Wine making is in full blast in the Fresno district, and fermentation ported progressing favorably. But \$10.50 is being paid for grapes, and large quantities are being dried, the prices obtained in that condition varying from 21/2 to 31/4 per pound.

#### WHOLESALE MARKET.

Quotations given are for large lots to the whole

CALIFORNIA BAISINS.

Halves, Quarters and Eighths, 25, 50 and 75 cents higher respectively than whole box prices, Unstemmed in sacks, per ib.

CANNED GRAPES.

e per 20-th, box.....

bleached, "

Stemmed Seedless

Grapes, Muscat, 242 no. \$ 1 40\vec{10} 1 50. Galls. 4 45

#### Sugar Quotations.

California Sugar Refinery price list dated September 6th. Circle A. Pat Cube, 81/4c; Circle A Crushed, 714c; Fine Crushed, 814c; Extra Powdered, 81/4c; Dry Granulated, 77%c; Confectioners' Circle A, 7%c; Extra C, 67/8c; Golden C, 65/8c; Star Drips Syrup, in bbls, 30c; hf do, 321/2c; 5-gall kegs, 371/2c; 1 gall tins, 471/2c per gallon.

Price list of the American Sugar Refinery daled September 6th: Extra Fine Cube, in bbls, 81/6c; Circle A, Crushed, 81/4c; Fine Crushed, 81/4c; Powdered, 81/4c; Extra Fine Powdered, 814c; Dry Granulated, 776c; XX Dry Granulated, 71% c; Confectioners' Circle A. 7c; Extra C, 6%c; Golden C, 6%c; American Golden Syrop, in bbls, 30c per

#### FAIR AWARDS.

#### Counties Which | Were Awarded Premiumsfor Vitteultural Display.

The committee appointed by the directors of the Mechanics' Institute, to decide on the merits of the Horticultural exhibits at the Fair have made the following awards in the matter of fruits fresh and dried:

Best display of table grapes, variety and excellence considered, \$50. Butte County. Second best display of table grapes, variety and excellence considered, \$30, Stanislaus county.

Best display of wine grapes, \$75, Sonoma county.

Second best display and quality of wine grapes, \$50, Contra Costa county.

#### RAISINS.

Best display of California raisins, premium \$50; R. C. Terry of Contra Costa

Second best display of California raisios, \$30; John Bidwell of Butte county.

#### OLIVES.

Best samples of olive oit by the producer, premium \$25; awarded to George F. Hooper of Sonoma county,

Best samples of pickled olives, premium \$25; awarded to George F. Hooper of Sonoma county.

South Australian vignerons are exercised over the law of wins labels, which render it compulsory to use the words, "Bottled in South Australia." The sentiof all the leading producers were in favor of repealing this objectionable clause in the Distillation act, and steps are now being taken to carry into effect a resolution adopted, to bring the matter up for action by the colonial officials.

Subscribe for the MERCHANT.

#### THE RAISIN TARIFF.

Strong Protest Against the Mills Bill.

Desiring to refute the statements made by A. B. Butler recently in regard to the Mills bill and its effect on raisins, the ruisin growers of Fresno county have arranged the following address to the public, which all the growers, with but three exceptions, have signed. This shows the feeling of people in the raisin basiness regardless of party. The address reads:

To the Public :- We, the undersigned raisin and fruit growers of Fresno county. taking this method of publicly expressing our regret that any person or persons substantially interested in the raisin and fruitgrowing industries of the county, should have allowed themselves, through personal ambition or for political reasons to go apon record as favoring the passage of the Milla bill, or any measure looking to the reduction of the small protective duties now levied ou imported raisins and fruits.

If it were true that the relate now allowed for damaged raisin equals, or nearly equals the reduction made by the Mills bill, then the bill would surely fail in that particular of its avowed object, the reduction of the revenue, amount to nothing at all. But such is not the fact. On the contrary the reduction is not allowed for damage does not exceed, according to the most reliable data obtainable, one-fourth. at most one-third of the reduction contemplated by the Mills bill, and the saving to raisin-growers by said bill would not in any case exceed two-fifths of the reduction cotemplated, to-wit, 25 per cent., and the small saving that would accene to us in the business, if any there were, would be drawn almost wholly from American producers and laborers, and such profits we spurn as nuworthy to be accepted by any true American citizen.

We do not wish to be understood as arying that we would profit by the Mills bill, but that a small percentage of the loss might be regained from our American laborers and producers. As final and conconclusive proof that the raisin-growers of California are entitled to protection at the hands of the Government, we dite the fact that we have to psy from \$1.25 per day and upwards for labor, while Malaga and other countries, with which we are required to compete, pay not to exceed 40 cents a day for labor, and while they can lay their raisina down in New York for 8 cents a box freight, we have to pay from 30 to 35 cents a box to transport our raisius to that market, giving the Spanish growers an advantage of from 40 to 45 cents per hox in labor and freight alone,

The imposition of the tariff, while it has prevented Spanish raisins from being placed on the market at prices that would drive the home product from the field. has not increased the price to the consumer, for, on the contrary, by enabling the industry to become firmly established at home, it has increased competition, and raisius are now selling at from \$1.50 to \$1.71 per box, instead of from \$2.50 to \$2.75 a few years ago. And we believe that the removal of the tariff on raising would only temporarily reduce prices, for S. L. Toft, th acres. could the home product be driven from Yena Hiuson, 60 acres. the market or seriously crippled, Spanish Alfred P. Arnold, 20 acres. shippers could soon dictate much higher L. Seeb ry, 40 acres. prices than are now paid by the American G. A. Blackbarn, 80 acres. consumer, so that the only persons injured George W. Fuller, 20 acres. by the tariff are the Spanish and other Carroll Ghent, 40 acres, foreign producers. We, therefore, insist T. W. Lee, 20 acres

that the tariff should not only not be re- A. Otto, A. Thiele, G. H. Peterson, J. Jon- believe that they have not made their calcuduced, but should, in justice, be raised to 31, or t cents per pound, thereby placing us on an equality with foreign growers and off setting their advantage in cheaper labor and freights, and yet impose no L. A. Gould, 20 acres. higher protection than than allowed on that prime necessity of poor men and laborers -viz., rice

We repeat that we regret that certain persons interested in the industries of this county have seen fit, for personal and political reasons, to assist, as far as they are able, in passing a measure autagonistic to the best interest of this county and State. and, as we verily believe, to the entire country. And we here denounce the Mills bill as damaging to the industries of this county and the entire country, and as an opening wedge, looking ultimately to free trade, which means ruin to our raisin and fruit-growing industries.

W. Forsyth, Forsyth vineyard, 160 acres. Robert Barton, general manager of Barton Vineyard Estate, 520 acres.

J. T. Goodman, Goodman vineyard, 140 aeres.

B. R. Woodworth, Las Palinas, 160 acres. E. Kennedy, Kennedy vineyard, 160 acres. F. T. Eisen, Eisen vineyard, 650 acres.

G. H. Malter, Malter vineyard, 160 acres,

A, P. Adams, Lind vineyard, 129 acres. R. H. McDouald, superintendent of Fresno

vineyard, 450 acres. F. H. and K. A. Boll, Ball vineyard, 117 Beres.

Austin & Hatch, Hedgerow vineyard, 100 acres.

M. Martin, general manager of lowa vineyard, 320 acres.

E. H. Gould, Gould vineyard, 220 acres.

Samuel L. Hogue, 120 acres.

G. D. Hudson, 100 aeres,

C. K. Kirby, Sierra Park vineyard, 250

Daniel Nichols, 100 acres,

H. Granz, Granz vineyard, 80 acres.

J Y. Devenage, Carolina vinevard.

F. Green, Sophie vineyard, 40 acres.

C. W. Myers, 40 acres.

Hiram Southworth, 20 acres.

George E. Goodrich, 20 acres.

D. McLaughlin, Malden vineyard, 60 acres. J. W. North, 40 neres.

H. E. Cook, 80 acres.

K. P. Fernald, Greenback vineyard.

G. H. Harding, Belle H. vineyard.

M. K. Chambers, Grassmere vineyard.

C. C. Smith, Jersey vineyard,

Emil Bretzner, Martha's vineyard, 3 acrea

E. Knapp, Wayside vineyard, 20 acres.

C. L. Walter, Walter colony, 25 acres. L. Stewart, Joryone vineyard, 20 acres.

J. T. Lowery, 50 acres.

Nellie Boyd, G. F. Sewell, E. F. Ball, Ed-

win Freeman, 20 seres.

B F. Scott, 40 aeres.

George F. Covel, 40 acres.

A. Warnekros, 20 deres.

George B. Rowell, 20 acres. Mrs. Cora Palmer, J. Jorgensen, 50 acres,

M. K. Jehusen, 20 acres.

H. Madson, 40 acres.

J. Hansen, 40 acres.

E. Reed, Wm. Moller, 20 acres.

assen, T. B. Snedden, G. Sanstedt, Curus Fruit Company, Charles L. North, F. J. Galloway, N. W. Moody, 20 acres.

L. Ames Gould, 20 acres.

Jennie C. tfould, 20 acres. J. A. Gould 20 acres.

F. Burnham, 40 acres

J. I. Slater, 40 acres.

A. Barr. 40 acres.

Harry Davenhill, 20 acres.

S. J. Hender, 20 acres

#### THE GRAPES OF THE CUTURE.

" Hunger is the best cook," as our German friends say; or "no better condiment than appetite," as our French friends express it, writes J. T. Lovell in the New York Fruit and Winegrower. A person feeling the pangs of hunger will cat and be satisfied with food which he would scorn to look at when not setually suffering from want of nonrishment. The American people have been hungry for grapes and the sim of the fruit-grower has been to produce grapes, no matter of what kind, so long as they were grapes, and plenty of them, and they would sell and prove profitable. Quantity being always antagonistic to quality, this retro grade movement has continued until we find more fruit of the Champion, Perkins, immature Ives, and other vile trash in the market than of any other; in brief, more poor and really worthless stuff than good, In this, as in everything else, a reform movement becomes inevitable, when abuse is long-continued and oppressive. The mass es have had their till of fruit bearing the semblance and the name of grapes, and now are beginning to take time to taste and criticise the quality of their grapes, instead of gulping them down like sugar-coated

The press has repeated it unceasingly, that "appearance, not quality, is the criterion which largely fixes the market price of fruits." This is no longer true, at least not more than in part. People begin to diseriminate between good, had and indifferent, and the demand for that which is good is steadily increasing. It is a fact too obvious to admit of discussion, in fruit culture at least, that the demand creates the supply much quicker than supply creates demand. I, therefore, bail with joy the dawn of a better day in the horizon of fruit culture For proof we need go no further east than Boston, the home of American Horticulture where the people always have taken and still continue to take, the initiative in horticultural matters.

In Boston markets the poor grapes referred to meet a slow sale at lower prices than ever heard of before, while choice fruit anch as Brighton, Wilder, Duchess, Worden, Delaware, etc., sella readily at figurea profitable and satisfactory to the grower. see this same improvement in public taste crop out in the demand for vines. The fruit of these choice sorts, as a matter of course, is more difficult to produce than that of wildings, requiring more careful and thorough culture; the vines are not so easily grown for the same reason, yet fruit growers are buying them at the advanced prices asked for them, and plant them largely with the full knowledge of the additional care required and the greater uncertainty of a crop, confident that the educated tasts of the people will austain their efforts and outlay; I

lations amiss

The grapes of the future will be, above all else, good grapes; as poor quality is not going to be tolerated forever I believe that not only the Champion, Hartford, Ives, but also the Coucord, Moora's Early, even tha Worden, Poeklington, Niagara and all others of the Labrusca speciea, will ultimately have to go and give place to the high and refined quality of the Delaware, Brighton, Duchess, Eldorado, Empire State, etc.

I rejoice in having the object of my desire—the ideal grape—as near at hand as I believe it to be, but at the present state of our knowledge of grapes, it may not do to attempt naming "the grapes of the future"; this we will have to leave to the future itself. There must be a number of them, however, to suit the widely differing tastes of perhaps more than aixty millions of peo-

Let our grape originators-the Ricketts, the Burrs, the Moores, the Campbella, the Rommels, the Jacgers, the Greins, the Mun. sons, the Caywoods, the Culberts, the Marvins, the Burrows, the Whites, the Pringles continue their labors. They have done wonders thus far, and there are good indications that they shall be rewarded with the object of their lives, namely: the production of sorts which shall be the ideal "grapes of the future."

JULIUS C. AMELUNG has removed his office from No. 214 California street to more commodious quarters at No. 10 California street, where he is prepared to attend to the interest of producers of native wines and brandies. He makes liberal advances on consignments of awest wines and brandies, and offers similar accommodations ou dry wines if required.

THE Scottish People, of Glasgow, saya: The red bandana, which is now the banner of the Free Traders in the United States. was, strangely enough, the banner of British Free Traders over sixty years ago."

#### MEXICAN SUGAR.

It is said that Mexico, were its agricultural resources properly developed, is capable of producing angar enough to supply the entire world for ages to come. The soil and climate are said to be particularly adapted to the perfect growth and development of the cane. If the duty on sugar should happen to be repealed by Congress as is proposed, a large trade may grow up between this country and Mexico. At the present time, England takes nearly threequarters of the sugar exported from that country. The backwardness of the Mexican sugar production is said to be caused by not only a lack of capital but a want of proper transportation facilities.

#### Fruit Status

These can be removed from white goods by pouring through them boiling water, provided that the apots have not first been wet in cold water. If the stains are of long standing, and do not yield to this treatment, dip them in water to which has been added chloride of lime in the proportion of one table spoonful of the chloride to one one quart of water.

Subscribe for the MERCHARY.

#### COLD STORAGE FOR GRAPES

W. D. Gunn, in the Independent, says: The average price of good Concord grapes, when stored, was not above three cents, while the prices realized when taken from store ranged from six to ten, and is a few exceptional instances, twelve cents per pound. One cent per pound will cover all extra cost, include one-half cent for storage, the price charged being ten dollars

According to the evidence of close observers during the past two seasons, wellripened grapes have kept in better condition than those not fulls matured when ctu. After being cut they should be placed in a cool room over night, or several hours, that the heat may be drawn off. The stems will then be found less brittle, and more safely handled, while any break or bruise occurring from the handling the day before, will be more plainly seen and easily cleaned out. Yet it is the experience of a large grower here, that grapes carefully cut and laid in crates in the vineyard, and conveyed directly to the cold store-room, have kept in prime condition until the close of the sesson-sbout three months.

The best package for storing is a box six inches deep, about one foot wide and two feet long without lids, if they are cleated tn that the one above covers the one under it. The top courses would have to be covered. If desired to utilized ordinary crates for this purpose, they may be cleated at the ends and a center partition made of light stuff. Open crates have been used successfully, and some prefer them. Unripe, mutilated or cracked berries should be removed. If shallow packages are used, closa packing will be preferable. They should be repacked when shipped.

With all the above conditions fulfilled, success is not assured unless the room is kept at a uniform temperature. Thirtysix degrees has proved the best point. While filling the house, forty degrees to forty-two degrees will be low enough. To insure this uniformity a great deal depends upon the method of insulation.

Various plans have been resorted to, but none have proved more effectual than the sawdust wall of fourteen inches, and the paper system in use by the Highland Fruit Honse. The former is a wall of packed aswdust, fourteen inches thick, enclosed by siding and lining. The other is a series of eight layers of asbestos paper, enclosed in siding, ceiling and lining, and so disposed as to provide several dead air chambers. Ridgeway refrigerators consists of an iccbox four feet wide near the top of one side of the refrigerating room, arranged to discharge the drip water through a series of V-shaped troughs, forward and backward, nutil all the cooling properties of the water ara extracted. The metallic troughs serve also as condensers of the moisture in the atmosphere of the room.

Experience has shown that dry, cold air is an essential condition for the preservation of grapes.

#### POISONS AND THEIR ANTIDOTES.

The American Analyst publishes the following fiat of poisons, which are liable to BY PROF. GEORGE HUSMANN. ba taken by mistake, and their antidotes.

It will be noticed that mustard is in all of them. The mustard is not, strictly speaking an antidote, but acts as an instantaneous emetic; no sooner does it enter the stomach that it is speedily thrown out again, and the contents with it.

1st.—Acid—Cerbolic, sulphuric, nitric, muriatic, nitro-muriatic, creosote, iodiue, phosphorous.

White of egg well beaten up with water. A tenspoonful of mustard flour in a cap of bot water. Very thick lime water (in the case of sulphuric, nitric, muriatic ur nitromuriatic acids.)

2nd .- Chromic acid, chromates, all preparations or compounds of chromium, antimony, copper, merenry or zinc.

Abundance of white of egg in water. A teasponful of mustard flour in water. Copious draughts of an effusion of salt herbs,

3rd. Ammonia, soda, potash, alkaline, silicates and sulphates.

Strong vinegar and water. Large doses of oil. Large doses of milk. Jth .- Prussic acid and its salts, all cy-

anides, oil of hitter almonds and nitro-ben-Continuous and heavy douches of ice

cold water over the head and spinal colump. Mustard plasters on the stomach and soles of the feet. Prevent sleep.

5th.—Ether petrolenm, benzine, fruit essence, concentrated or absolute alcohol.

Plenty of mustard flour in large quantity of hot water. Cold water douches. Fresh air. Prevent sleep absolutely.

6th.-Compounds of baryta and lead.

A tenspoonful of mustard flour in hot water. Strong solutions of Epsom salts and Glauber's salts in cold water.

7th .- Compounds of arsenic.

A teaspoonful of mustard flour in warm water. A teaspoonful of dialyzed iron mixed with the same quantity of calcined magnesia every five minutes for an hour. Then plenty of oil or milk, or some mucilaginous tes, say linseed.

8th -Oxalic acid and its salts.

Very thick paste of lime and water by large spoonfuls at the time. After several of these, large draughts of lime water. Finally four ounces easter oil.

9th.—Nitrate of silver.

Large doses of ordinary kitchen salt dissolved in water, after which one teasgoonful of mustard flour in warm water.

10th.-Nitrous fumes or vapors, arising in Vitriol or Chemical Works.

Erequent and small doses of strong acetic acid-the stronger the better.

## Notice to Wine Makers

I have one of my improved Continuous Pressure Hydraulic Presses about ready for delivery to any party wanting one. Address

W. H. WORTH,

Manufacturer of Wine Machinery.

PETALUMA - - - - CAL.

THE BOOK FOR EVERYBODY.

Grape Culture and Wine Making IN CALIFORNIA.

A Practical Manual for the Grape Grower and Wine Maker.

For sale at this office. Price \$2. Handsomely bound in cloth. Address,

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NOTE; - All orders must be accompanied by the ash or sent C. O. D.

#### OLIVES! OLIVES!

Mission and Picholines averaging from six inches to six feet high.

W. ALSTON HAYNE, Jr., SANTA BARBARA,

### FOR SALE,

#### A Wine Press

- APPLY AT -

Office of "S. F. MERCHANT,"

### FARM FOR SALE.

Two hundred acres in Sonoma County, ten minutes drive from railroad station, Forty scres planted in the finest variety of vines. The balance rich river bottom, and rolling land capable of the highest cultivation. Several never failing springs and plenty of oak and redwood timber on the property. Good house, large barn, and out buildings. Scenery, climate and roads unexcelled. Good fishing and hunting in the neighborhood all the year round. One f the most elegant and profitable suburban homes in Northern California.

Inquire of "W. H.," office of the San Francisco Merchant.

## Registration for the General Election,

All electors desiring to vote at the General Election to be held Novemb r 6, 1888, must be regiatered regardless of any previous registration.

Registration for the General Election to be held November 6, 1888, will commence at the Office of the Register of Voters, in the basement of the New City Hull, on WEDNESDAY, August 8, 1888, and will continue until MONDAY, October 15, 1888, indepsite. Office the August 8, 1888, and will inclusive. Office hours from 9 o'clock A.M. to 5 o'clock P.M.

The registration of voters in the precincts will be held from October 16th to 20th inclusive. By order of the Board of Election Commissioners. BEN. A. PRINDLE, August 4, 1888. Registrar.

#### OLIVE RANCH OF 448 ACRES,

Or 240 acres in one place and 208 in the other. Sold together or apart, having 11,000 olives planted, and commence to bear in 1887. Fully equipped with buildiogs, agricultural tools, horses, etc. Sixty tons of hay and plenty of grain; fine stream of water. Title perfect. Situated in Santa Barbara county, near Los Olivos depot, Will sell at a bargain,

For particulars apply to

W. A. HAYNE, Jr.,

SANTA BARHAHA, . . . . . . CAL

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## COMMISSION MERCHANTS.

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We will offer a full line of other Grocers' articles shortly.

California's Million Dollar Company:



### OF SAN FRANCISCO, CAL

			,	
		C	APITAL.	ASSETS.
NUARY	1,	1875	300,000	\$ 747,488 45
NUARY	1,	1880	750,000	1,160,017 00
NUARY	1,	1888	1,000,000	2,181,925 18

#### Losses Paid in Twenty-five Years, \$7,500,000 00.

D. J. STAPLES, President, ALPHEUS BULL, Vice-Presiden,

JAN

JAI

WM, J. DUTTON, Secretary, B. FAYMONVILLE, Asst. Secretary.

#### OUR NATIVE WINE SHIPMENTS SEA.

Sept. 14, 1888

#### PER P. M. S. S. CO'S STEAMER COLIMA, AUC. 30, 1888.

#### TO NEW YORK.

BHIPPERS.	PACKABES AND CONTENTS.	OALLON4	VALUE
	17 punctions Wine	2,611	81,555
Kohler & Van Bergen			1,950
A Netter			
			1,455
			3,262
			300
			450
1			377
}			699
			177
			27-
	Thom - William		79
C Semining 8 0	11 loss - Wina		543
11	II tagral I mands		56
11	I barra Wine		47
1	1 breed Wina		45
Lashman & Jacobs		765	295
Late dilitari i conce di		1.230	400
			362
4.0			531
Lenermand Bros	10 barryls Wine	501	152
	6 barre's Wine	3113	197
1	12 cares Wine		56
1.	12 tarr % Wire		
1.5			202
44	1 half barrel Brandy	26	52
	I case w Witter		21
Trapoli, Berges & Co	60 barrels Wine	2,940	1,119
1.C secon and		39 065	811 873
	Kohler & Frohling Kohler & Van Bergen A Netter G Meglaracea A Greenbaum & Ca  A Greenbaum & Ca C Schilling & Co  Lachman & Jac h  Lenermand Bros Lachman & Co  Trapoli, Berges & Co  Trapoli, Berges & Co	Kohler & Frohling Kohler & Van Bergen A Netter  Notter  Notter  Notter  Notter  Noter  Note  Noter  Noter	Kohler & Froh'ing

#### TO CENTRAL AMERICA.

APT Co. Cornito	Parrott & Co	12 barrels Wine	612	9180
P.A.A. Ponitas Ar nas	192	25 kegs witte	479	440
C P, Acajotia	**	3 ha'f-harre's Wine	5.1	100
G F M, Puntas Arenas	**	2 ke gs Wine	20	18
11	119	I half- arrels Whiskey		320
J M, Corinta	S Lachman & Co	11 half-barrels Wine		
6 (	14	1 case Wine i	305	230
S & Co. Amanaia		10 cases Wine		40
C A H, La Libertad	Urrela & Urioste	2 barrels Wine	80	20
**	**	3 kegs Wine	70	62.
Y & Q, Champerico	11	6 kegs Wine	60	54
1 H. Corinto	John T Wright	all cases Wine		315
B M, Acajutla	**	2 half-barrels Wine	30	60
Total amount of Wine,	91 cases and	*	1,740	81,819
Total amount of Whisk	ey, 4 half barrels		1	520

#### TO MEXICO.

P. D. & Co, Acaputco.   Urrela & Urroste.   2 casks W ne	116	
Total amount of Wine, 20 cases and	255	8194

#### TO PANAMA

· 0	I. F Lastrito	O balf barrels Wine	275	\$1NI 129
Total amount of Wine Total amount of Whis	tev, 10 cases and		275	\$129 90

#### TO GERMANY

JAW, Wartemberg IC Schilling & Co	I barrel W nu		50	
JAN, wattemberg te senting a en	I Dai et wine	 	50	8.30

#### TO NEW YORK-PER SHIP CHAS, E. MOODY.

FA & Co C Carpy & Co 30 barrels Wine	1.471	8588
V.S. & Rece " 50 harrels Wine		
CJ 10 barrels Wine	490	196
CJ 10 barr-ls Wine 1 barr-l Brandy 30 barr s Wine 30 barr s Wine		50
	1.170	344
B&C LTSnow 3 Takes W ne		-
AD		33
K & F Kohler & Frohling 30% barre & Wine	19.893	7.957
JAS Packages Brandy.	2.017	4.034
H Bros I half-burrel Wine		10
J W & B D wning & schmidt . 90 narrels Wine	3,298	1.319
C W Co Cor cha Wine Co 100 barrels Wine	20,043	8,617
G 4 Gundlach & Co., 300 barrels Wine	11.319	5,728
B D & Co Sal barrels Wine		
EB&J Lachman & Jacobi 1861 terre & Wine.	45,116	111,259
Bin diamond " 250 barress Wine	12,423	4,9499
G & M IS p a heons Wine .	3,240	1,296
C L 250 barrels Wine .	12,306	4,920
lotal amount of Wine, Hi cases and		
Total amount of Brandy	2,642	4.084

#### MISCELLANEOUS SHIPMENTS.

DESTINATION.	Avsavi,	810	0 ALLONS	VALUE.
Japan	Newbern	Steamer	534 619 612 371 200	251 39 257 167 70
Total			1,794	7%1

Grand totals..... \$52,813

#### CHALLENGE

## Double Acting Wine Force Pump



the annexed cut represents our Heritarial Challenge Wine Imply of pread compact cess and power, for use in wine ce durafter printing from one tack into another. The Cylinders of our Iron Dumps are briss lined, the piston rad, valves, and valve seats are briss. Our all Briss Prints are in de course of briss, with the callette of the extr. and at an extra charge we will furnish them also with all metallic valves.

also with all metallic valves.

The water ways are large and very direct, and the whole pump is so simple that there is no lability to get out of order, and as substantia as to be very enduring. This Pump is extensively used by Wine Men. Being con ja, it it is easy y immoved from place to place. The arrangement of the lever makes it less laborious to werk than the ordinary lever. We recammend this Pump to wine dealers as the most serviceable P ump for their requir, menta, and greatnet them equal in every respect to any Pump for this purpose in the market.

EACH PIMP IS GLARANTEED,

We carry a full line of Wine, Brewers' Garden and Steam How of all rites and qualities. Wine Oceas of all descriptions. Wine and Fermenting Cants. Send for prices.

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Send your address and have their Mouthly Price List mailed regularly to you. 25 SEND A TRIAL ORDER, TA

## CLUFF BROS.

9 & 11 Montgomery Av. 40 & 42 Fourth Street, 409 & 411 Montgomery Av 401 Hayes Street,

SAN FRANCISCO, CAL,

## MESSRS A. BOAKE & CO'S.

LIQUID ALBUMENS,

#### FOR CLARIFYING AND PRESERVING WINES

The under-signed having been appointed Sole Agents on the Pacific Coast by Messrs. A. BOAKE & CO. STRATFORD, Eng., for their renowned

## LIQUID ALBUMENS,

Bog to call the attention of Wine Growers and Wine Merchants to the following articles, the superior merit of which has been confirmed by Silver Medals, the highest awards given at the International Exhibition of Pars 1878, Bordeaux 1882, and Amsterdam 1883, viz.



## LIQUID ALBUMEN FOR RED WINES.

Zinfandel, Claret, Burgundy and Port.



LIQUID ALBUMENS FOR WHITE WINES,

Riesling, Gutedel, Sauternes, Sherry and Madeira, also for distilled liquors; Whiskey, Gin, etc., etc.,



#### WINE PRESERVER,

For Preserving the Brilliancy, and for Neutralizing excesive acidity of White Wines only.



#### WINE CORRECTOR,

For Correcting the Roughness of Young Wines.



#### WINE RESTORER,

For Restoring Radly Made or Badly Treated, Harsh and Acid Winea.

trial according to directions will prove the Superior Qualities of these Finings

CHARLES MEINECKE & CO., Sole Agents, 314 SACRAMENTO STREET SAN FRANCISCO.

#### OLIVE CULTURE.

Byron O. Clark, writing on the subject in the Rural Californian, says:

The growing of the olive for fruit and oil is beginning to attract a share of the attention it deserves, and if the proper idea prevailed among those who are seeking their fortunes at fruit growing in Southern Californis, there would be more orchards o this valuable fruit planted. It is believed by many that the olive is slow in making returns for time and money expended, and that there are many obstacles in the way of the beginner, both of which are wrong.

An orchard planted with good two-yearold trees, in good soil and well cultivated, will bear enough froit the fourth year from planting to pay expenses for that year, and at six years pay as well or better than any tree we can plant at same age. The Hon. Ellwood Cooper, of Santa Barbara, says a six-year-old tree will yield from 75 to 100 pounds of fruit, which will make from six to ten large bottles of oil, which he sells today for \$15 per dozen, and disposes of his entire crop as soon as drawn.

As to the skill and experience required to grow the orchard, there is not as much of either required after the trees are planted in the orchard as is necessary to grow an orchard of citrus fruits. The only difficulty I have found in growing olive trees begins and ends before they are ready for planting in the orchard. I find it (especially the Mission variety) hard to propagate from the cutting. Notwithstanding all we read in the local prest of the State, that all that is required is "a sufficient number of cuttings to plant the orehard, as they are as easy to grow as willow." Such advise has been the bane of the fruit grower, and many a would-be orchardist has paid more for his experience than would have supplied him with sufficient number of trees to have planted his orchard, and suc\_ cess would have been the result instead of disappointment and failure. I have had the best results propagating from the auckers or sprouts taken from the base of old trees. They should be of two-years' growth and removed with a portion of the knot from which it sprouted, cut the prout back to three feet in length, plant in orsery rows fifteen inches deep and plow the soil toward them, keeping it well banked up and run the water in the center of the row when irrigating, cultivate well, not disturbing the soil next to the cutting, cultivate two years in nursury before planting in the orchard, as a one-year-old olive is hard to transplant, not having made strong roots. I find this method pays, and will not plant a yearling tree if I can get twoyear-olds, even at double the money.

If you wish to grow the trees from ordinary cuttings, they should be taken as early in the winter as practicable, cut about fifteen inches long, planted in the usual manner of planting cuttings. Some seasons you will get a good per cent. of them to grow, other years bring few; taken altogether, it will be cheaper to buy your trees, if you have the money to pay for them.

I consider the Mission the best variety to plant; the oil made from it by Mr. Cooper is not surpassed by any, it is a good cropper and is good for either for oil or pickling, and is the only well tested variety that we can recommend. There no are doubt other varieties will be found among later importations that will have special value for oil and others for pickling, and I

their value, but you cannot afford to plan an orchard of untried variety. The experience that many will have with the Picholine who have planted it, will, I am afraid, be a serious setback to olive growing in this State: it has been handed to the skies. but can never be made profitable. It may make a good oil, but it is a shy bearer, and the fruit is so small it will cost all it is worth to pick it, and the idea of recom mending it for pickling, which has been done by some of the northern nurserymen The fruit is about as large as a bayo bean; every one knows that the Queen olive always beings the highest price of any imported olive, and solely because it is large and fine in appearance, imagine trying to compete with the imported olive with such a fruit as the Picholine

In selecting a location for an olive orchard use as much judgment as if it were for any other fruit. Do not say to yourself "the olive will grow anywhere and in any soil; for while it is true the olive will come as near doing so as any tres known, do not take cheap, poor lands from choice. A goat will live on the rocky mountain side, but will grow fat in a meadow. And the same rule will hold throughout all branches of agriculture and horticulture, and you can not afford to buy any but good laud, especially if you are a poor man, to start an orchard of any kind, and the same rule will hold good with the olive. It responds to good culture and good soil and it will pay to give it both. If I had poor land on my premises and wanted to make it pay something, I would as soon try the olive as unything, but I would never buy such land from choice on the strength of the common saying, "any soil is good enough for the

Having prepared your land by thoroughly plowing and harrowing it, see that your trees are planted in pice straight rows. Nothing looks so slovenly as to have your orchard planted as though the trees had been dropped into their respective places, the rows so crooked as to put the meandering rows of a China garden to shame.

The trees should be during the month of February, and if you are not ready to plant them, heel them in carefully and they can be planted any time up to May, but I prefer March. It is best to dig them before the sap starts, as if left standing in the nursery and not dug till March or April, they will commence to grow and they will be longer recovering from the effect of transplanting. It is advisable to give the trees a good watering when first planted so as to settle the soil about the roots, but they will not need any more to make a satisfactory growth, but, of course, by giving water freely you can force their growth; good cultivation is all that is needed in connection with sufficient pruning to keep the trees in good shape, from the time the trees are planted till they commence bear-

The process of making the fruit into oil or preparing many other fruits into marketable products, no expensive machinery being necessary, but strict attention to details and through cleanliness are necessary. The sloven is no more capable of making a gilt edge brand of olive oil than he is of making the same grade of butter. The time will soon come when sufficient fruit is produced that they will be works for pressing the oil and preparing the fruit established in each locality, and the orchardist need not manufacture his fruit into ita commer-

of the olives in the United States should lieve not so effective. If we were asked to encourage larger planting of this valuable tree, as it can be profitably grown on any good soil from the sea coast to the base of the mountains without irrigation.

It only remains for the intelligent horticulturist to give the olive the same attention that has been given other fruits to make it one of the greatest, if not the greatest wealth producing factor of Southern California.

#### SUMMER PRUNING GRAPE VINES

The last few warm days, says the Fresno Expositor, have decided about the deirability of spring pruning the Muscuts. The opinious as to the profits of such pruning have been much divided. Charles A Wetmore, a few years ago, when informed of the practice of cutting back the too exuberantly growing ynung branches of the Muscat, shook his head and inquired where such a practice had a precedent; but his and many other grape-growers' experience was acquired in climstes very different from our own. The advantages claimed by those practicing summer pruning are many, In the spring, when the young shoots on the vine s have reached three or four feet, these shoots are exceedingly tender and easily broken. A heavy wind at that period is not an uncommon thing, and its havoc in an unprotected vineyard is damaging. After such a heavy wind thousands of shoots may be found broken from the main vins just at the junction between the old and the new wood. A few days more, perhaps, the green branches would have been sufficiently toughened to withstand the wind, but at the critical time much damage is done. To counteract the force of the wind if it does come, and as a safeguard, many vineyardists cut back the young shoots one-half or more. The proper time is considered just when the berries have set and the blossoming of the first crop is over. At that time a certain stagnation of the flow of the sap takes place, and the cutting back would then not have any sudden or unnsual effect on tee vine. The immediate effect of the cutting back is simply to lessen the force of the wind on the branch. After the cutting there is never any danger of the branch being broken by the wind. But a more far-reaching effect of the cutting back is arrived at. Soon after the cutting back the sap begins to flow upward and shoots make their appearance at every joint. Thus instead of the single branch cut back, four or five branches will grow out and shade the vine. This' shading of the vine is of the greatest importance. The Muscat is the highest bred and most tender of any grape, and exposed to the direct rays of the sun the herries will burn and dry up, causing not only a loss of the crop, but an extra expense in picking out the ery and spoiled berries. Too many of them will seriously injure the value of the raisios or even make them unsalable.

Viceyards which have been summerpruned well in the spring have in this time of the year large crowns to shade the berties. We have lately been through several of them, and very few berries were seen damaged by the sun or heat. On the other hand, vineyards in which no summer-pruning had been practiced had to be protected in different ways. The favorite way is to take some of the larger branches and carry them crossways over the crown of the vius, thus increasing the shads over the center, would advise trying a few trees and test cial products unless he so desires, which where most of the grapes are found. But two or three times with strong soap-auds.

with the growing demand for the products this method is more expensive and we berecommend either way, we should advise the summer pruning every time, as far as this locality is concerned. In other parts of California, where the Muscut does not grow so vigorously, summer pruning may not be of advantage; here it decidedly is.

#### FLORIDA'S WINE GRAPES.

Under the above head, Mr. E. Dubois of the San Lais Vineyards, near Tallahassee, Fla., writes as follows to the Florida Farmer and Fruit Grower: The Norton or Norton's Virginia is a mild grape that was found on Cedar Island, James River, Va., in 1835, by Dr. F. A. Lemark, and first introduced by Dr. D. N. Norton, of Richmond. For several years but little attention was paid to the grape, Catawba being being the leading variety for wine making, and Lougworth, the father of American graps culture, having pronounced Norton worthless. It was only after some Missouri vine dressers had discovered the real merit and value of the Norton as a wine grape and this variety was planted extensively in nearly all the wine growing sections of this country where the season is long enough for its thorough ripening.

The Cythiana, which has been called the twin sister of the Norton, closely resembles the latter, so much so as to have been believed by some to be identical with it. Close observation of these two varieties for the past four years enabled me to notice, in some points, a marked difference between them. The bunch of the Norton is long-shouldered, compact. The bunch of the Cynthiana is also long and compact, but generally more broadly shouldered. The berries of the Norton, as well as those of the Cynthiana, are small, although lrrger here in Florida than anywhere else where I have seen them. They are black with a blue bloom, juicy, vinous and very sweet when fully ripe.

The juice of the Norton, when fermented on the husk, makes here a dark red wine of much body and color, and of pleasant bonquet, without that caffeine flavor existting in the Norton wine from Ohio and Missouri. The Cynthiana makes a still darger wine with at least as much body, and it must weigh, on Oechele's scale, a little higher than the Norton's (from 110 to 118 with us.) The Cynthiana wine properly fermented compares favorably with the fine imported Burgundy, and if turned into Port none of the European grapes cultivated in California and used for that purpose can compare with it. The Norton and Cynthiana grapes fermented together make a first-ciass claret. The Norton wine, owing to its high percentage of tannin, possesses great medicinal properties and is particularly valuable for dysentery and diseases of the bowels. Both grapes are now recognized by all experienced grape-growers as the most reliable and most valuable grapes in America, and will add that they are the most reliable and most valuable grapes for Florida. They will thrive in almost any kind of soil, and while in a high level ground they will bear immense crops, on a hillside, not too steep, the yield will be lighter but the quality of the fruit much superior, imparting its superiority to the wine.

To KEEP olive trees healthy, a San Diego correspondent suggests dreaching them

## ADVANTAGES OF PLANTING VINES 35x11 PEET

A Treatise prepared by Charles Erng, Commissioner for the Napa District.

The most common system of planting adopted in California is that of squares, with the vines placed at seven feet apart. Some sections adopt a greater distance, eight feet prevailing in many interior districts—some vineyards even exceeding this, running up to ten, or even twelve feet.

These greater distances have been chosen for several reasons. It greatly facilitates the plowing and working of the vines, gives a less number to plant, prune, and care for, and where raisin and table grapes are desired, the size and beauty of the berry is considerably improved.

European countries, devoted to wine making, crowd the vines close together, two and one-half to three feet from each other in the rows, and the rows three or four feet apart. Close planting is particularly practiced in the renowned vineyards, where it is thought the small quantity of grapes thereby produced on each plant adds to the quality of the wine.

In the spring of 1881 I had sixteen acres of choice varieties of vin s planted on Howell Monutain, and chose for distances three and one-half feet in the rows, the latter being fourteen feet apart. I selected this method on account of the easier plowing secured there by on the steep hillside which formed the locality chosen. Lately I have adopted this method for plunting on valley land, convinced that it possesses many advantages over the "square" system heretofore employed. Some of these advantages may be enumerated, as follows:

- 1. Fifty per cent of the plowing now done with one horse will be performed with two animals and a large plow, thus securing deeper and more perfect tillage. The larger tools accomplish the work more rapidly, and three or four horse tools may be easily and safely worked in the rows—each one forming a complete avenne.
- 2. The gathering of the brush will consume only one-third of the time and labor that is commonly employed in carrying it to avenues some distance apart. Here the prunings may be thrown into piles at convenient distances along the fourteen-feet rows and burned, without danger to the vines, and each pile will thus return to its respective vines a fair portion of the fertilizers produced in its nahes.
- 3. Sulphuring may be done more quickly and economically in the fourteen-feet
  rowa, as a cart or wagon may be used to
  haul the barrel of sulphur to the laborers
  -this throughout the whole vineyard, and
  the driver may even assist in the work
  without leaving his vehicle.
- 4. Spraying the vines—a practice which is likely to come into vegue in our vineyards some day, as it has in European vineyards—would be greatly facilitated, in that the whole appliance may be hauled and worked by horse-power. At present the prevailing custom is for each operator to carry the solution in a reservoir strapped on to his back.
- 5. The empty grape boxes can be easily and directly distributed to the pickers, and the boxes, when full, may be placed directly upon the wagon to be handed to the cellar. Much time and labor is at present wasted in forcing the pickers to carry the heavily loaded boxes some distances to the avenues, perhaps from the middle of the block.

6. When cultivating has ceased—usually in June—for two months, the teams, which are otherwise likely to be idle, may be profitably used to improve the land by hauling maoure to the vines, filling up low places with dirt or sand, or carrying off roots, etc. Also, the work of preparing drains and such may be easily and chenply done without, in anywise, interfering with the growing vines.

But this method recommends itself not only for planting new vineyards, but also for changing old vineyards from seven by seven feet to three and a half by fourteen feet, or from eight by eight feet to four by sixteen feet, giving the proprietor a fine oppertunity to transform his vineyard from a viuifera root vineyard to a resistant root vineyard. This can be accomptished by planting resistant roots in the alternate rows to be preserved, right between the two old vines. As soon as these resistant roots produce four feet long canes, the adjoining old vinifera vines, in the same rows when attacked by phylloxera or otherwise. may be taken out and the canes from the resistant vines laid under ground to the place where the old vinifera vines stood, which layers with the support of the nonrishments from the mother roots, will make a rapid growth and soon be strong enough to be grafted. In the meantime the second rows should be taken out as soon as the grafted resistant vines and layers are producing a crop. They then cont une to bear their usual amount of grapes, and the income from the vineyard is only slightly lessened during this transformation.

Our old vineyards planted to Mission and Malvasia will soon be matters of the past. Fine varieties are being grafted on their roots, or the old stumps are pulled out and resistant stock put in their place, when grafting to fine varieties follows in a year or two afterwards. Yiueyards suffering from the ravages of the phylloxera are greatly favored by this process.

For varieties, grafts are taken mostly from Cabernet Sauvignon, Cabernet Franc, Petite Sirrah, Mondeuse, Miller's Burgundy, St. McCaire, Beelan, Carignan, Mataro, Tannat, etc. (red), or from Riesling, Semillon, Sauvignon Blanc, Fulle Blanche, Traminer Sylvaner, Sauvignon Vert, etc. (white); and the quality of future vintages produced from these will soon surpass all previous

The low price of grapes and vines which have ruled during the past Iwo years have caused a perfect stagnation in vineyard planting in our district. Many parties before interested in viticulture are discouraged. I wish to assure them that their doubts in regard to snecess are without foundation. luferior wines will soon disappear from our markets; only fine wines will be offered to consumers, the demand for our better goods will continue to steadily increase, and the common sense of the American people will not, as has been thought by some, be permanently mislead by the Pro-Wine and brandy warehouses hibitionist. will give the vintuer a chance to refuse rniuous prices. In short, our industry will soon again see better days, and grape growing and wive making will yet again be the best paying industry in our glorious Stat-The counties raising the best dry wines will stand on the top of the ladder and command the markets of the country.

THE MERCHANT is largely circulated in the Hawsiian Islands.

#### OLIVE OIL WORKS.

A San Diego correspondent of the Rural Californian says.

The ripening of the olive here extends from November 1st to March, so that the grower of olives is not crowded in his harvest. One good man will be able to gather from one to two thousand dollars' worth of olives during the ripening senson. pickling they should be hand picked, like cherries; one man being able to pick forty gallons a day. Olives for oil can best be gathered when fully ripe, like ripe pranes, by shaking the tree and catching the falling fruit on canvass spread under the tree. fast as gathered spread them on the floor. brick preferred, not over three inches deep to dry. They should be stirred so thoroughly every day that each olive is moved. Stir each day for three or four days, when they should be run through a fauning mill and all the stems and leaves winnowed out. They are now put into a grainte hopper and ground, but so as not to break many of the pits. Run the pulp or crushed olives into cylindrical press, fashioned like a cider press, and with screw power slowly express the oil. Much stress was laid on doing this expressing slowly, so as to force out as little as possible the fibrous matter of the olive. The oil that runs of its own weight i-"virgin oil," and commanda a high price. After the oil is all expressed it is drawn off into tin vats, the top oil being pumped out and put into vats by itself. It is now left one hundred days to settle and deposit all fibrons and albuminous matter. The oil is now put into large felt bags, which are first lined with cotton, secondly with tow, and thirdly with hair-cloth. The oil slowly percolates through the hair-cloth, then the tow, through the cotton, and through the felt into the bottle. No tobacco smoke nor strong adors of any kind are allowed in or around this oil factory of Mr. Kimball's. The utmost clearliness pervades through all processes. The presses sud vats, so far as msy be, are of granite. The basin in which the olives are ground is made of granite, brick and cement. The bottom is a thick, circular granite stone, several feet in diameter: the circular sides, flaring outward like a dishpan, are made of brick and Portland cement. This particular hopper will hold 400 pounds of olives. Moving on this granite base, round a wooden must or post in the center, is a solid granite vheel several feet thick and nearly a foot in diameter, weighing 5000 pounds. mechanicism of the screw-press is such that a pressure of fifty tons can be attained. The machinery for bottling, corking, sealing and labeling is all of the most approved pattern. This sil factory can handle sixteen tons of olives a day

It will be seen from this description that the making of olive oil is a much more intricate and expensive process than drying apricots or making raisins; and the small growers of olives will always be, more or less, at the mercy of cil manufacturers. But even with this drawback, I believe it to be one of the most profitable trees that can be grown, and that there is no danger of overstocking the market. Had I money to invest in land near National City or San Diego, I should certainly plant it chiefly to olives.

#### GERLONG VINEYVEDS.

At a special meeting of the Greelong Vine. It is a tree easily and Fruitgrowers' Association on Satarday tings and require the Chairman stated that efforts to obtain further compensation, or for permission to —Orland News.

replant certain portions of the district had failed. Two members of the Association, Mr. F. Marenday, and Mr. F. Inner had planted vines, and the Government Inspector had ordered them to be destroyed. Acting under legal advice the vignerons named objected to comply, and it is expected that the Government will enforce the law. The meeting resolved to support the action of the vignerons, and agreed to the formation of a Defence Fund if the Government took action.

Mr. W. Craike, President of the Geelong Wine and Fruitgrowers' Association, in a letter published recently (says the Argus) recently called in question the policy pursued by the Department of Agriculture in regard to the eradication of vines at Geelong. Mr. Craike stated that, as the great bulk of the vines destroyed were at great distances from the phylloxera-affected plants, the probability was that instead of three years, would have chapsed before they would have been destroyed by the pest.

The officers of the department hold that the report of the Parliamentary Select Committee, which sat in 1880, showed that the evidence taken justified the members in reporting that all the vines would have been destroyed by the pest within a limited period. The compensation paid by the State amounted to £21,023, which was expended over an area of 852 acres, the average outlay being £24 13s. 6d, per acre.

The complaint made by Mr. Craike that the Government would not listen to repeated applications made by different viticultura societies that the infected ground should be trenched is met by the assertion that in August, 1855, the owners of the vineyards were written to by the department and offered to have their properties trenched free of cost. Thirteen replies were received to twentyone circulars issued. Several of the owners either objected to the work being carried ont on account of their land being planted with fruit-trees, or wished action delayed until after harvest. Two persons alone wrote giving their consent to the trenching being done, but afterwards a few other vin yard propri-tors agreed to the State undertaking the work. In no case, however, has the Government power to enter on land to trench unless by permission of the owner. An instance of a widow who refused to allow her land to be trenched unless she received a "paltry handred or two," is quoted by Mr. Craike, and the officers of the department mention that she demand d £1000, and would accept nothing less. The land was covered with fruit trees, and the Act did not permit of compensation for the destruction of such plants.

#### OLIVE TREES.

The olive tree is a good grower and a good bearer in this valley, and the people are beginning to find it out. Dr. Gray, of Colusa, put 60,000 young trees, about sixty seres this spring, and they are doing aplendidly. It is generally stated that the clive does not come into bearing for seven or eight years, but in this locality they do better than that. John Mortenson, who lives just south of town, has two trees that are five years old, they yielded a large erop of olives, and this year they are again loaded with fruit. Experience has proved the slive to yield the most profitably of eny fruit. It is claimed that \$1,000 ar acre can be obtained from this product is claimed that \$1,000 an Our people should investigate this subject. It is a tree easily raised, grawing from cut-tings and requiring no irrigation. It is said that land cannot be too poor for olives



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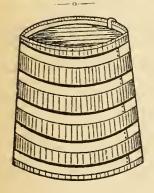
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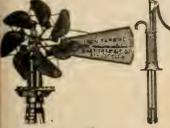
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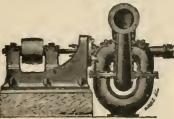
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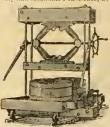
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VOL. XXI. NO 1.

#### SAN FRANCISCO, SEPTEMBER 28, 1888.

PRICE 15 CENTS

#### REPORT OF J. H. WHEELER.

#### Chief Executive Viticultural Officee, for 1887.

To the BOARD OF STATE VITICULTURAL COMMISSIONERS - Gentlemen: I am quable to report to you for the whole twelve months of 1887, having been appointed to the office in March: since which time a fair share of my efforts have been devoted to an end-avor to properly qualify myself for the

It has been my pl asant duty to visit and examine many sections of the State where the industry of viticulture has gained prominence. I have found the interest in wine-producing most concentrated in the bay counties.

The interest has fallen off, in a great measure, in Los Augeles and surrounding counti-a, where raisin growing has relatively enlarged in importance.

Fresno county has become an important raisin-producing center, and a marked interest in the subject has been communicated to neighboring counties.

The production of raising in Yolo county continues important; her residents conceding no superiority to counties south.

Yuba, Tchama and Shasta are proved raisin counties. While Solano, Sacramento, Placer and other foothill counties are producing th. bulk of shipping grapes designed for Eastern markets.

The local markets are largely supplied by Solano, Souoma and Santa Cruz counties; the latter being pre-eminently suited to the production of table grapes for the late markets.

The larger part of our wines at present come from Napa, Sonoma, Santa Clara, Alameda, Los Angeles and Fresuo counties, Santa Cruz is making rapid strides in this direction, and some interest is being manifested in the planting of wine grapes in Ventura, San Luis Obispo and Monterey

The greatly increased value of land in Los Angeles, San Diego and San Bernardino countres, together with the building of new railroads and their attendant stations and town-sites, having so turned the attention of the people from viticulture, that few additions have been made to the plan-Litions of the previous year.

In my studies and investigations I have

to acknowl dge the assistance of wingrowers in every part visited. On all sidethere has been evidenced a desire to aid vour officer by all available m sus- to d all possible to forward our general interest, at the same time eliciting instruction.

I have many to thank for aid, and somexcuses to make to those whose invitationto visit their vinevards I have been unable to accept, because of official work elsewhere.

THE SEASON'S CALENDAR.

The grape-growing season of 1557 has, unlike many preceding seasons, been characterized by the absence of any pronounced natural plague or scourge. As stated by some, "the grasshoppers, worms and bugs have let our crops alone, only to be shrivled by north winds, consumed by drought or fall the prey to high-priced labor and low values." We have had the usual visit from the grapevine flea beetle, in May, which was buried in foilage made by the vines in June. Contemporaneous with this visitor, came the false chinch bog, which did not, altogether, molest on acre in the State, although appearing in small spots in several The vine hopper, or, as sometimes called, the thrip, became formidable in some sections, while almost disappearing in others.

#### THE VINE HOPPER.

More alarm has been manifested over the appearance of this pest than in any previous season, and certain varietiess viz. the Trousseau, Chauche Noir and Riesl. ings have been their special prev. This insect is exterminated with difficulty, because it derives its nourishment from the sap only, which we are unabla to inoculate with any poison. Insects consuming directly the tissue of the leaf may be destroyed by spraying the foliage with an are nic solution; but for the vine hopper such resorts are of no avail. The hopper must be killed by mechanical means.

Sheep turned into the vineyard in Fall has proved a valuable auxiliary to other remedies, but this is a resort seldom available. Carrying a torch through the vineyard at night-to which they are driven by disturbing the vine-has proved unsatisfactory, likewise some toxical solutions suitable for destroying other insects, but availing little with this,

rectly upon the fringe-the grassh pper. rabbits, squirrels, army worms or sphynxmoth worm, be-tles, scribe, false chinch bug, cutw ms, etc. Special remedies havbeen devised for many of these; prominent among whichh is the arsenic and bran remedy for destroying the first three enumerat d-an effective anti-lote, which can hardly b improved upon. The d sirableness, however, of having a single remedy to meet all these parasites is apparent to every vineyardist.

The old yes, the oldest rem dy l'ans green or London purpl, known to be destructive gen rally, has been brought into requisition. Extensive experiments have this year been conducted by me at Mr. Crabb's vineyard, Oakville, Napa county, to prove that a solution of Paris green or London purple-one pound to one hundred and sixty gal ons of water-may be used to spray the foliage of the vine, while the grapes are small, with perfect safety to the consumer of grapes, wine or raisins produced therefrom. The efficacy of the remedy as a destroyer is not questioned but, to determine whether in California, where summer rains do u t fall a condu tion dissimilar to that found in sections where the remedy is known-I say whether, here, it could be used with the same guarautee of salety or not, seemed to me a ques tion important enough to merit a trial. It is my pleasure to aunonuce a perfect success; the products, grapes and wine were carefully examined by Pr fessor Rising. State Analyist, and proved unocu us.

A have prepared a full rep rt of the experiment, which will be found in the report of the Vincultural Convention for Isan together with the other proceedings of the Couventien.

#### FROST

I have, from time to time, communicated to the public, through the press, the results of my study and observation on this suljet, having mad much original r search, a d, ail- l by many co-inborers, l am abl to report great provinces

The first and great st calamity which visited or vin parts this season, was that fr st, which were be r up mer las the mest dam ging on which has yet appeared in California. It is safe to say that by dir et effect, viz., destr ving both fruit an l f li g and indir ct, that by producing and Most of the enemies of the vine feed di- impairing those grapes which were though ited the process with any which the

ing at the tim, the crip of the State for 1557 was red red no third. The greatest herm was don in Napa, Sin ma, and the forthill countries. Incident to the loss and damage there or used much study and investi, sti n of off ets, and methods of avoidance. The subject became one common and pertinent inquiry, the results of which, added to lorm research s, may be summed up as follows:

Under or huary circumstances, vineyards are damag d by frost only when the thermometer (F.) so set as to mark the true temperatur of the vineyard, marks 27° or lower.

When there is no wind, and frost appears, vineyards of the lower ground ordinarily are harmel first and most. I say ordinarily, for I have found this rule sometimes modified by the nature of the soil. Silt and sandy sails are more productive of frost than clay or gravel. I have frequently seen this verified, a part of the same acre of vines, which part was of gravel and four fe t l wer than the remainder, escaped unburt, while that on the higher sandy soil was bad y frosted.

This may be explained in a measure by th. fact that the growth mail on the gravel was al wardt gh ned by lack of moisture, while that of the upper rich soil was full of water, rank and luxuriant. For this evi', nature affords a partial remely in causing the vin son the rich r soi to put forth later than those of the gravel.

Having disposed of the most common ex--phon we will proceed with our rules.

Wh n the air is moving appreciably and frost appears, the uplands are almost as subjet to damag, as the bottom lands. Occasi us have appeared where the damage to uplands has been intensified by the greater alvancem at of the grewth.

Re at experiences d m astrate that the vin yar is of Centra and N rth ru Ca ifor nia may be damaged by frost as late as the middle of May.

Sm king, to keep of frest, has proved ineffici ut, an pt where the ir star xtremely light-even then it his prived an unsatisfact ry rem dy wing to the difficulty in g ting the h lp t at pr p r time My ret fth . wh re this r medy has been r I up n a le y, it his failed when the timp rature has raihid the dom ung j int

l hav k w vr vrissaniwh cred-

thermometer marked only 32°, or a little lower. The same immunity would have been had if no smoke had been created.

I am unwilling to advocate smoking except as an nuxiliary, and then to be employed late in the spring. Damp manure smothered with weeds makes the best smudge, and is far ahead of tar or other materials. To light the piles rapidly, a small amount of kerosene should be poured on, and the same ignited with a torch or match. If the manure is placed in pld sacks or mats it will be found convenient to move when cultivating, will keep drier through rainy wenther so at the season of frosts, and may even be removed at the end of the season if desired for another

The theory that vines which have been frosted may be saved by protecting from the direct rays of the sun when it appears, is exploded. Shading the frosted foliage will not save the vine from damage, nor even smeliorate it.

The remedy employed by Guyot, namely that of covering the vines by mats, though nu effectual cure for the evil, is one quite uuavailable to California vineyardists with the present cost of labor and material, and the existing values for grapes and wine.

The most perfect cure yet known for damage from frost is the avoidance of the danger, hy selecting a warm, protected, and elevated location on which to plant. Here the vine properly belongs in all cases, and is generally safe. There is, however, for those who have been unfortunate enough to choose a frosty locality, some in the method of avoiding damage by proper proning.

#### PRUNING FOR FROST.

To do this, so prune the vine that the desired buds shall remain dormant till this danger is past. One method of producing this result is that of leaving the vine unpruned, absolutely, until eight or ten days before the dangerous period is over; the put forth susceptible growth.

With this system, the terminal buds, and those on the laterals, come out early; and those left near the base remain perfectly dormant and safe till forced out later by pruning again.

Where practicable, this proves an efficient There are, however, but few cases which permit of this resort, as the growth of the previous year became so tangled as to require removal to permit of the ordinary operations of the vineyard in spring. Young vines of upright growth, and those grown on poor soil, will permit of the ramedy, or it may even be carried on by first tying up the canes to permit of cultivating.

This method causes the fruit to ripen somewhat later, but this is little or no pbjection in California. A harm may, however, be accomplished by this sadden stopping the flow of sap entirely. I have seen vines pruned in this manner for three consecutive seasons without any appa ent permanent injury to the plant, though the injury may become manifest later on,

Another method having many advantages over the foregoing, and open to few objections, is that of pruning one half the spurs (which would customarily be left), as usua viz., short, leaving the balance of full length. If laterals are found on these long canes, all the better, as the presence of the lateral insures the dormancy of the bud at its junction with the main canes. In this case, with the approach of warm jug the lower parts.

weather, the short apurs put forth, likewise the terminal buds on the long canes and laterals. If the frost comes it destroys all this; following which the short spurs put out a growth from the secondary buds. providing little fruit, but furnishing good eanes for next year's spurs. The long caues may now be divested of laterals, and pruned short immediately following the frost, and they will then, after about ten days, commence to produce the same growth and fruit which would have been obtained without frost, or which would have been obtained with the adoption of the ordinary method of short pruning.

Again, if no frost appears, the long canes may be pruned back at the time when danger is past without any serious setback, as by this time the short spurs are out and showing fruit. The work, too, is made comparatively simple by the vines having heen previously pruned into shape. The method entsils some irregularity in the ripening of the fruit, but this has proved no serious difficulty. But little more labor is required, and the most absolute safety secured. I have seen this method practiced on a large scale with eminently satisfactory results.

The knowledge of one fact will enable the grower to adopt methods peculiarly suited to his locality or variety to be praned

If the laterals of any cane of fair size be allowed to remain at the time of proning, it assures the dormancy of the bud at its junction with the stem. This is true in all cases, except when but ton few canes are left in proportion to the strength of the vine; or, when the vine is very small and young, in which later case more canes should have been allowed to remain.

With this fact in view, the pruner of long wood varieties in frosty localities should leave enough laterals on the spnrs remaining to insure him against loss. Be it known also, that the laterals, where such are left, dormant buds requiring about ten days to may be relied upon for heavy fruiting wherever a case of necessity arises. They will set as early and as well as, if not better, than the original canes from which they spring. Short-pruned varieties which put forth very early in sections lishle to frost- such, for instance, as the Folle Blanche-may be advantageously pruned, as before indicated, leaving the laterals on the remaining lung canes to insure the buds at the base of these canes continuing dormant. After nearing the frost period, these should be pruned off and a spur of the desired length, with only dormant bads, will be the result. This process I have witnessed-tae results being satisfactory.

Thus it may be seen that, by intelligent pruning, the common damage by frost may be averted, though entailing some additional expense and perhaps some loss to the plant-a loss, much less, however, than that often observed where no remedy is adopted.

High pruning is a remedy much like smoking. Where frosts are light, vines trained high will escape the still frost, when if pruned low they will be scorched. A heavy frost will injure both high and low pruned vines, and the short pruned fares worse, even here.

The freeze, accompanied by a wind or gently moving air, has been known to injure the tops of high vines leaving the bottoms untouched. This phenomenon occurs most frequently late in spring, when the foliage is well advanced, thereby protectFUNGOID DISEASES-OIDIUM.

The oidium, or powdery mildew, commonly called mildew in California, is the most common enemy of its class. The past season has been one of little complaint from this source, probably owing to the liberal use of sulphur, practiced now aunually by our vineyardists. For a full description of this oidium, with remedies and treatment, see Appendix I, devoted to that subject, and accompanying this report.

#### PERGNOSPORA VITICOLA

Is known more commonly as downy mildew. This disease, together with anthracnose and black rot, are common throughnut the States east of the Rucky Mountains. They form a present scourge to Europe, but are not known to California vineyardists. Dr. Harkness states that he has found peronospora upon the V. californica, but there only. My searches for this disease, and they have been prosecuted with considerable vigilance, have never revesled its presence in the State. It has frequently been reported to me by vine yardists, but on inspection I have found some other trouble only. When Professor Viola, of the Agricultural School of Montpellier, was visiting Celifornia in September, in company with F. L. Scribner, of our Department of Agricultural, it was my pleasare to visit several vineyards with them; but we were unable to find any evidence of peronospora. I exhibited to them various specimens of leaf diseases which had been sent to me for peronosporo; but they pronounced them "diseased epider-The "Spanish or black measles," so called in the northern valleys, they did not recognize as anything they had seen before; but did not regard it as very formidable.

The conditions favorable to the development of peronospora are known to grow only out of an extremely humid atmosphere. Actual moisture must be deposited and continue on the leaves-such as results from summer rains. I believe, therefore, that California vineyardists have, in our dry and comparatively rainless aummers. an assurance that this disease-one which ranks accoud only to the phylloxera in France-will never become commun. would be idle to presume that it had not been introduced with some of the direct importations of stocks from diseased distriets. We should have suffered from its general attack long before this if our climate did not preclude it.

#### POURIDIE

Is a fungus found to infest many California vineyards, particularly those planted on wet and improper soils. It has been nbserved only during the last few years, though probably existing previously, nurecognized. The disease is well known in Europe, existing there as here, only in spots unfit for vineyard purposes. When found, it had been sometimes termed "rout rot," a very proper name, in that it affects the roots, with the following symptoms-The vine shows general signs of enfeeble: ment, grawing sametimes for a short period with increased vigor, but soon relapsing into a meager production of foliage and subsequent rotting of the roots, both large small These latter exhibit a brown color. and appear saturated with water, so much so as to show water plainly when cut. The trank of the vine continues healthy, though the foliage appears like that of a vine infested with phylloxera. Vines affected may continue to live for six, ten, or even fifteen months, varying as the conditions more rapid during the past season-favored

are more or less favorable to the development of the disease. A large area may become infested in a short time if the whole is similarly situated. The disease thrives in excessively humid soils. Particularly is this the case where there exists an impervious subsoil, which forms in a subterrsnean basin wherein there remains stagnant water. Germs of the disease may be introduced on the vines themselves, or may come from vegetables or trees.

At first the new fibers of the affacted plant show no signs of the attack; but soon swellings will be seen un the old roots which break through the bark and protruda n pithy growth, which soon becomes dead and rotten. After some time the whole substance of the root decays to such an extent that the vine, at this stage, may be easily uprooted by hand. To cure the evil, one can only hope to so modify the conditions of the soil as to prevent the further spread of the disease, and then destroy the vines on which it exists. They should be immediately pulled up and burned on tha spot, to avoid any diffusion of the spores to other places. Following this, the ground should be thoroughly worked over and drained. Leave the spot unplanted for several years, after which the place may be again planted to vines.

I have had several samples of this disease sent me from the counties of Sonoms and Napa, besides receiving reports of its presence from several other counties. The malady cannot flourish on well drained soils-soils to which alone the vine belongs; but the vineyards of the wet lowlands or undrained uplands should be carefully guarded against its introduction and spread.

Before leaving the subject of diseases of the vine, I should remark concerning the trouble which has occured in many of tha vineyards about Orange, Anaheim, and elsewhere in Los Angeles County, that the attention of our leading scientists and students has been repeatedly called to tha unknown disease, and they have as yet failed to identify it as due to any particular fungus or parasite; and our former impressions continue concerning it, viz: that it is purely the result of climatic influence.

Sudden or unfavorable changes in temperature produce like results in the northern counties; hut are not of such general occurrauce. I have known many vines killed thus during the past year.

A warm spell in winter preceding a cold one, though the latter be nut a regular freeze, may kill the vine or so nearly destroy it that it dies the succeeding summer. I have received recently samples of vines so injured. Examination of the buds, which had failed to put forth, shows a brown and dead center-proof of the prassuce of moving sap in cold weather. The collar of the vine-that part of the stump which joins the trunk to the roots-was found dead and brown. Inasmuch as this is the tenderest part of the plant exposed, it suffered with the buds, from a winter start of sap succeeded by cold weather. Vines sn affected and others near, but not exhibiting the same signs of the attack. lingered through part of the summer and died in a manner similar to those noticed in Los Augeles County.

Those counties favored with occasional warm and springlike weather in midwinter, are, I believe, most liable to complaints of this nature.

The spread of this insect has been far

by drought as it has been-than ever before. Abundant new spots have become manifest, and several new districts have been added to the quarcatine list. I have found new instances of their spread by the use of cuttings taken from diseased vineyards; though convinced that their principal means of distribution has been by rooted

I have found the winged insects common throughout the months of June, July, Angust, and September, giving them a long season in which to increase the infected territory.

Few of our vineyardists appreciate the fact that the progression governing the increase of this pest is one of geometrical ratio-not an additive one; and though it may be several years before the presence of a few insects become evident in the vineyard, from that time on the spread is alarming, and, without stern resistance beoffered, the giving way of a few acres, or even a few hundred vines, means the loss of all within a limited number of years.

The reports of the Commission issued heretofore concerning this pest, and the best remedies for its extermination which we have preed for adoption, are more than ever confirmed at the time of this writing. As proof of this I am able to give the following, which I translate from the report of 'La Commission Superieure du Phylloxera, of France, for 1887, representing as it does the results of unlimited experiments and long years of practical work:

The struggle sgainst the phylloxera goes on by subnersion, insect cities, and by replanting with Amerian vines in the following proportion:

It may thus be seen that great preference is shown for resistant vines, the acreage rising in two years from one hundred and eighty-eight thousand two hundred and five acres, to the enormous figures of four nundred and sixteen thousand two hundred and ninety-two acres. This answers the question so often put to me by vine growers: "Are resistant vines a success?" have published advice on this subject continually, but there do not exist to-day in the whole State, two thousand acres of reistant vines. Those resistants which have been properly selected, planted, and cared for, are to-day monuments of success, but hey are too few to save us from the growing ravages of this pest.

It will be noted in the above, that the ase of carbon bisulphide has largely increased in France; that the use of aulphocarbonates, because of the great expensattached, has grown less popular. The number of vineyards submerged is nearly constant, because of the special natural requirement of the process. For fuller particulars concerning the success of different remedies in Europe, and the resistant vines most popular at the present day, the reader s referred to Appendix V of this report, which treats of the results obtained in the vineyards of southern France by the use of various methods and varieties.

California vineyardists can point with pride and assurance to the planting of grafted resistant vines, belonging to Mr. Julius Dressel of Sonomu, where, in the midst of ravaging phylloxera, and on soil of very moderate worth, a magnificent yield of choice varieties has already been secured by this means. Others have been similarly successful in growing and grafting resistant vines; but I have, as yet, found no Mountains.

other test to severe in its nature as that conducted at Mr. Dressel's vineyard. Mr. Dressel states that he is perfectly satisfied with the Riparia as a grafting stock-easy to root and sufficiently vigorous in his soil to supply any vigorous growing variety. The Lenoir has been growing rapidly in favor in California, because of its rapid development and easy grafting. It proves difficult to root, but is preferred over the Riparia and some others, because it furnishes a wine suitable for blending as a direct producer. But grafting is both expensive and slow, and, in fact, the value of carrying on any warfare may be somewhat altered by the present depressed condition of the winemsking industry and the popularity and improved value of other branches of agriculture in California.

During this season, when grapes for wine making have in some instances sold for as low as \$7 per ton, and the average in many districts has been only \$12, the pestion has arisen: Would it not be better when the phylloxera appears to replant and reconstitute the vineyard with prune trees, almouds, olives, or other fruits unusceptible to the phylloxera? There are cases, where, puless there exists some special reason for keeping up the vineyard, viz., particular appropriateness of soil and inspitability for other use, it may be best to adopt this alternative, continuing the production of the vineyard as long as it proves profitable, or at least until the trees should come well into bearing.

Where excellent wines have been produced and a market therefore has been established-particularly if the brand has become well known by advertising at great expense; or even where expensive facilities for making and holding wines have ocen provided-here are found exceptions demanding the continuance of the vineyards and warring off the phylloxers, even though the expense be considerable.

#### HERBACEOUS GRAFTING.

I have to say, concerning this method of changing varieties-particularly described in the paper published with this reportthat although generally tried, the method has proved a signal failure. One disciple of this Commission, residing in Australia. reports a success of five out of eight. It such results were possible in California, I should be greatly encouraged to make another effort, earlier in the season, but as it is we are able only to record the experiment as valuable in its negative results; providing, as it will, against the general or extensive use of it at any future time. My attention has been called to several other methods of grafting, which will be thoroughly tried by me during the coming spring. One particularly, that of side grafting, is, I believe, of great promise. It consists in inserting the scion into an incision in the side of the root or collar of the vine, with a partial suppression of the top to force its growth. Thus the growth of the scion may be assured before the old vine is cut off, and if failing, no fruit or time is lost, as the progress may be similarly repeated the next year. The many other advantages of this method will be apparent to vine growers; nor is the method purely experimental in California, for it has already been tried in a very few instances, and these with воше впесевя.

THE MERCHANT is the only viticultural paper published West of the Rocky

#### COLD STORAGE FOR GHAPES.

Fruit growers, especially those who grow small fruit for market, says a writer in Farm and l'ineyard, would doubtless realize great benefit from any method that would infallibly preserve their fruit in a sound condition for several days after becoming ripe and marketable.

During the berry season fair fruit is not unfrequently hawked about the streets of large cities at ruinously small sams, and yet perhaps in less than three days the same kind and quality of berries cannot be had by consumers for much larger sums, if at all. Consumers cannot take advantage of the brief periods of abundance and cheapness to any extent, except for canning. Therefore, fresh fruit for daily table use, by the largely predominating class of people, is quite anattainable; and yet such use-regular daily consumption-is really the only one from which the highly desirable sanitary benefits can be fully realized, and to supply which, if once established. would probably require many times the amounts of such fruits now marketen,

With cold storage, berry growers who have sufficient practical experience and judgment to be reasonably sure of a yield proportionate to the aggregate production, would almost be certain of realizing good returns, could their entire crop always be sure of ready sale for ten cents per quart at retail, and it is not hazardous to say that five or more families-perhaps five times five or more-would use berries daily during the berry season, where there is one now, if they could regularly obtain good fruit at a uniform price of about teu cents per quart.

Fortnmately there is a sure means of preserving ripe perishable fruits in a sound and fresh condition for days, and even weeks It has been demonstrated that cold storage will accomplish this. Even ripe raspberries have been kept in good condition in cold storage three weeks, while cherries have remained sound and fresh six weeks. and ripe fall apples two months.

How to secure the conveniences for cold storage is an important question. It is easy enough to say that all that is required is to place the fruit in an apartment in which the temperature is kept invariably as near the freezing point as possible, yet not quite reach it-about 340 to 350 Fahrenheit. But how best to secure an apartment adapted to such use is less easily answered, for the reason that "circumstances after cases." and what would be best for one might be beyond the reach of others. Those able to erect structures for themselves can proceed at once to provide cold storage apart-

Even a wooden cold storage building is somewhat expensive. It should be large enough to accommodate all the fruit, in marketable packages, desired to be kept over at any one time, and also for an entry or packing-room, of intermediate temperature, in which the fruit can be cooled gradually before putting it into the cooling room and modified b fore taking out to ship, to prevent too sudden extremes of temperature. A cellar under this room for storing boxes might be of advantage

A tested and approved form of structure is that of an other out two-story lee-house, its outer walls having two spaces for filling with savdust (or other suitable material), the outer one ten inches wide and the inner eight, with also an inner filled space. The upper story is the real ice-to go in and possess the market.

house-or at least there must be sufficient room in the upper story to hold enough ice to keep the room beneath cold, if not for the season's supply. The ground floor and walls of the cold room must be impervious to the passage of air, and the floor above slightly descend to a drainage gutter in the center. Of course, this floor must be well supported to sustain the weight of ice, but the less impervious to air it is, without letting the melted ice through, the better. As cold air settles down the warmer air is brought in contact with the upper floor, and the ice upon it keeps the entire cold room beneath at near the freezing point.

Freit growers, in any locality, might perhaps unite and co-operate in erecting a cold storage structure that would accommodate all interested in it; or they might unite their influence to induce some capitalist to provide cold storage facilities, and make a reasonable charge for storage to remunerate him. Probably the nearer the place of shipment the storage-room can conveniently be, the better for the fruit. A party who stores and deals in ice might reasonably be expected to furnish cold storage room to good advantage.

#### FOREIGN WINE CROP

The 1887 vintage of France, exclusive of Algiers, is 642,398,700 American gallons; Italy, 829,620,000 gallons; and Spain, 739,-552,800 gallons. The following are the average vintages for the past five years of the various 'oreign countries named

Country.	Gallons.
France	735,361,403
[taly	721,329,823
Spain	634,695,209
Portugal	158,400,000
Anstria-Hungary	264,000,000
Germany	97,416,000
Switzerland	34,320,000
Tarkey	68,540,000
Russia	92,400,000
Greece	39,600,000
Roumania	15,480,000
Servia	31,650,000

Total . . . . . . . . . . . . 2,946,230,135 It seems almost incredible that, with these figures before them-observes the Fruit and Wine Grower-our legislators should be so indifferent to our magnincent opportunities to enter the markets of the world with our vineyard products. The falling off in the crop of France from 2,000,000,0000 gallons in 1875 to 600,000,-000 in 1887, and the fact that France imports more than half as much as she produces, shows what a field there is for our own wine growers to enter a market hungry for their products, if only they had any to offer. Let Congress act upon the wine bills before it adjourns, and give our wine growers free brandy spirits to fortify their sweet wines with, and other still wines, too, when exported, and put the heavy arm of the law upon the adulterators and compounders of imitation wines, and thus afford a fair field to our noble young industry, such as is given in every other country where wines are grown.

Gentlemen of the House of R presentatives, we shall expect to hear from you in a substantial way before many weeks. Two hundred thousand farmers wish to know if the Governm at they creat not efford them an opportunity to a the markets with their products, by re-moving unnecessary and uscless restric-tions that practically discriminate against their produce in favor of that of foreign

#### PASTEIRIZATION OF WINES.

(Report by State Analyist Rising.)

In February of last year a bulletin (No. 66) was published, giving in a summery manner information on the subject of the pasteurization of wines: that term having been adopted for the treatment devised by Pasteur, for the final repression of all fermentative action in wine, of whatever kind, by the application of a moderate and strictly gnarded degree of heat, under complete exclusion of air.

The peculiar conditions under which the vintage of 1887 was made, involving the introduction of much nusound material into the wine vats unless carefully hand-picked beforehand, together with the frequent use of overripe grapes, combined to make an unusual proportion of wines that, if rot unsound at the very outset, were exceedjugly liable to become so under the slightest provocation. There thus arose so heavy a demand for information on this, the best and most thoroughly legitimate mode of preserving wines from injurious germs, that the edition of Bulletin No. 66 was soon exhausted; hence it is reprinted here for the information of wine-makers, and with the strengons recommendation that at least no winery intending to age wines should remain without having at command a pasteurized of sufficient capacity to allow of prompt interposition, not only in cases of actual and obtrasive unsoundness, but whenever a suspicion of danger arises. Such danger will be of very common cccorrence so long as the practice of fermenting with free access of the hot air of our vintage season to the nucovered pomace cap, or to the thin layer of wine on top of barely submerged grated frames of "false hottoms" continues to prevail. All who have analyzed California wines, or examined their sediments with the microscope, must testify to the wide prevalence of the ncetic taint especially. mode of examination is so wholly within the power of any person of ordinary intelligence, and defines the condition of the wine with such absolute certainty, that it is greatly to be regretted that the microscope should not, with the must spindle and mash thermometer, form a more common appliance in well-regulated wineries. It might seem too "bookish" and "unpractical" to a great many; but those availing themselves intelligently of its services would soon be amply rewarded for their expense and trouble in saving wines from progressing too far on the way to unsoundness. It will indicate the propriety of resorting to pasteurization long before the most delicate taste can recognize any fault in the wine.

It cannot, however, be too strongly enjoined upon those who desire to avail themacives of pasteorization, that at least for all bonquet wines, in which some quality is expected to be maintained, a sufficient length, and sufficiently small diameter of the heating coil, and ample cooling power, he looked to. The pipe should in all cases be of block tin, not over half an inch, and preferably less, in (clear) diameter; and the greater its length, and the mass of the heating water-buth, the less liability will there be to injure any portion of the wine by imparting a "cooked" taste A short and wide heating coil inuolves the use of a high temperature of the bath. if the output is to be reaaonably large; and this is liable to lead to overheating of the exterior portions of the passing wine, while interior threads may steadily the desired temperature. Beyond While a well-pasteorized wine is secure mometer inserted at the exit end will show against further action of the ferment germs steadily the desired temperature. Beyond previously contained in it, it is, like any mersed in a 15-gallon boiler; a 20-foot coil

possibly escape adequate heating, and thus remain to reinfect the wine.

Adequate cooling power is very essential in order to prevent any contact of warm wine wine with the eir; and the emerging stream of wine should not be allowed to 'break'' as it passes into the receiving eask, thus avoiding nonecessary aeration. Strict attention to these points will greatly abridge the period of "flatness" that follows pasteurization, and requires three to eight weeks to subside. It is useless to taste a wine immediately after pastemization; for it then holds in suspension the sediments brought down by the heating. which impress the palate so much as to render a judgment regarding the result of the operation impossible.

Pasteorizing, like all operations in handling wine, requires a little experience, both in the management of the temperature and the maintenance of the best conditions for the welfare of the wine. Pumping directly into the coil is altogether undesirabte; the wine should be pumped or run into a receiving cask, through which it descends through a siphon at a nearly constant pressure, greatly facilitating the maintenance of a steady temperature. California wines the latter need rarely exceed 150°, as their alcoholic strength is al most always high enough to insure complete disinfection at that point.

The fining of wines after pasteurization should always be deferred for some weeks, in order to secure the coming-down of all the sediments prior to floing. In many cases the sediment comes down so promptly and in such compact form that, in small packages at least, no fining is needed, and the simple filtration of the turbids after racking is preferable.

It is intended to give cuts of several of the best forms of pasteurizers in the final report on the past season's work, it having been impracticable to prepare them in time for the present publication. RULLETIN NUMBER SIXTY-SIX -- THE PRIN-CIPLES AND PRACTICE OF PACTEURIZING.

The nomerous inquiries now being received in regard to the practice of and appliances needed for pasteurizing of wines, render it expedient to put in print, for general information, the main points in the

The essential point to pasteurizing is to heat wine to the temperature of 156°, or thereabouts, out of contact with air. The heating should be done as quickly as pospossible, and after the proper temperature has been reached it is best, other things being equal, to cool the wine as quickly as

Several objects are accomplished by this heating. The one most generally aimed at is to kill the germs of all kinds of fermentation that may exist in the wine, in order that it may be safe from further changes under their influence. Another is to advance the wine toward maturity. Also, to forestall any further deposition of sediment, by the coagulation of the albaminous matters it still contains, and which enendanger its soundness.

The general plan in the construction of pasteurizers is usually the same as that of the various kinds of still condensers; only. in this case the water around the worm is hot, and the cold wine iu passing through the worm is heated to the proper point by allowing it to move with greater or less rapidity, in a solid column, so that a therthe thermometer the wine passes into a cooler from which it is delivered into the (well-cleaned) storage or shipping packages. In many cases it is delivered into these directly from the pasteurizer, and allowed to cool in the tightly-bonged casks.

Wines of sufficient age, that have ceased to deposit sediment and are bottle-ripe, may be pastenriz d in the hattles themselves, in a water-bath having the proper temperature. This is the preferred practice in the case of high-priced wines.

The temperature must be carefully guarded, since if it either rises too high or continues too long even at its proper point, the wine may acquire a "cooked" taste, and may loose its natural bonquet. Immediately after the operation the wine is somewhat flat, but in the course of a few weeks not only fully recovers its zest, but is found very much advanced toward ma-

THE RATIONALE OF PASTEUDIZATION.

The effect of this process upon the wine may be thus summarized:

1.-All fermentative germs, of whatever nature, are kindled by the heat: the more promptly the higher the heat and the alcoholic contents of the wine. Wines poor in alcohol, and especially those containing a remnant of sugar, require a higher temperature than those fully fermented out and rich in alcohol.

2.-Acids present in the wine are, under the influence of the heating, partly nentralized by entering into combinations (ethers) which form part of the flavors of older wines. Hence, acetified wines become of milder taste at once, and even milksour ones gradually loose their "scratchiness," if not too far gole.

3 -Wines while maturing in the cask are always found more or less impregnated with atmospheric air (oxygen), the gradual absorption of which forms a most essential part of the matering process. After pastenrizing the wine is found free from oxygen, providing that it has been absorbed during the process, thus often accomplishing in a short space of time an advance toward maturity that at the ordinary temperatures would have required several mouths.

4 .- When the heat is raised sufficiently high (to about 160°, which can be done without injury to most classes of wine), the nustable "albomicoid" substances of new wines that continue to cause the formation of deposits of lees, for one or even two years after the completion of the vinous fermentation, are at once rendered insoluble, and thereafter cease to give trouble; the wine, after having been cleared by settling or filtration, forms no more deposits, and can, if necessary, be bottled.

It should be understood that while pasteurization puts an end to all further fermentation, it does not interfere in the least with the ordinary process of matoring in the cask. But, save in cases of emergency, it must not be practiced before the completion of the after-fermentation.

Should a wine, however, be found to be "going wrong" while the after-fermentation is progressing, it may be pasteurized to stop further damage, and will then be ready to be started ou a healthy after-fer. mentation the following seasons, or sooner if the materials (e. g., condensed must) are

PRECAUTIONS NECESSARY TO INSURE SUCCESS.

While a well-pasteorized wine is secure

other wine, subject to reinfection from fou packages, bungs, pumpa, hose, etc., as wel as from impure water and alr. Impur water used in rinsing packages is a fruitfo source of trouble, and the bottling of winin close, must, unventilated and unsulphu red cellars is responsible for many bottle of damaged wines, especially if the corl used have not been scalded in hot water From want of these reasonable precantions it has often been reported that pasteurizing is not the universal cure for wine diseases that, with proper care, it has always proved to be. Just as a dose of quinine cauno permanently prevent the denizens of malarious valleys from contracting chills and fever, so Pasteor's admirable process does not secure wine against injury from carelessness and filth.

THE PRACTICE OF PASTEUBIZINO.

Among a score of appliances brought forward by different inventors, a few only have gained wide acceptance. For California practice the "intermittent" patterns will hardly be considered. Of those intended for continuous operation, which alone are adapted for large-scale practice, there are essentially two types. In one (including the "contherms" of Terrel des Chenes and of Carpené) the cold wine passea through one or several metallic (block tin or copper-tinned) pipes immersed in water heated by proper formaces or by steam; in the other the pipes are replaced by a ring-shaped space between an inner and onter cylinder. The former system has, on the whole, been more generally accepted.

As has been stated abowe, the overheating of any portion of the wine most be carefully avoided. Hence the temperature of the water-bath must not greatly exceed that desired for the wine, since otherwise the outside portions would, in traversing the pipe, be heated up too high, and therefore be "cooked." (The same objection lies against heating the wine in a closed tank by means of a steam coil, as has sometimes been done.) Hence, again, large pipes are ansoitable, as the temperatura would be taken too slowly, and as a single small pipe would reduce too much the working capacity of the apparatus, the inlet pips is made to branch into a number of these, disposed in the form of either a ribhon or a foose bundle of coils. In Terrel's apparatus (which may be considered the must perfect) the cooler is similarly arranged.

For ordinary purposes, however, this complex and somewhat costly construction is very commonly replaced by a single pipe forming a long coil of somewhat greater diameter than those in Terrel's apparatus; and this form, being easily constructed by any plumber, is sufficiently well adapted to the needs of small producers.

At the winery of Mr. Juan Gallegos, near Mission San Jose, a pasteurizer of satisfactory working and output, consists of a 90-gallon "farm boiler," within which is placed a coil consisting of I30 feet 1/4 inch block-tin pipe, held in form and posi tion by four straps (U-cross section) of strong galvanized sheet iron, to which the coils are soldered, so that the whole can be freely handled and taken out of the boiler when not in age. A similar coil in a wooden tank forms the cooler, and the capacity of the apparatus is about 950 gallons per day—ten hours.

The pasteurizer in use at the viticultural

of the same pipe forms the cooler. capacity of this single pipe is 8 to 10 gallons per hour when the tank water is kept at about 160°; with ten similar tubes and a bath temperature of 170° which is admisaible for many wines); in a 100-gallon boiler the hourly capacity would be about 100 gallons-or, say, 1000 gallons in ten hours.

A large apparatus, according to Terrel, with a capacity of 250 gallens per hour, costs at the factory \$240.

In order that any of these appliances, may work with perfect regularity, it is best that the wine should descend by gravity from a supply cask, adjusted once for all to auch a height above the heater as to form a proper pressure column; into this supply cask the wine to be treated is pumped as needed. Pumping the wine directly into the heater is objectionable because of the spaamodic action, by which some portions of the wine may escape adequate heating. while others are overheated. For the regulation of the flow to the exact temperature desired, a faucet-tinned inside- is interposed between the cask and the heater: it is convenient to have another placed between the heater and the cooler, or the receiving cask. The inlet pipe most descend to the bottom of the heater, so that the wine moves upward in the spiral, otherwise accomplation of gas bubbles causes irregnlarities. When a cocler is used, fuel may be saved by using in it, instead of water, the wine that is to be heated and may thus be given a part of its increase of tempera-

It will thus be seen that pasteurizing is an exceedingly simple operation, which can be formed by any intelligent laborer who can read a thermometer and adjust a faucet.

#### TTILITY OF PASTEUBIZATION.

When it is considered to how great an extent the general use of the pasteurizing process can do away with the most serious difficulties under which California winemakers labor, its importance can hardly be verestimated, Our hot vintage season and the imperfect methods of ferm utation still so commonly practic d, render our wines peculiarly liable to the introduction of noxious germs, which develop so soon as the after-fermentation is completed, if not sooner. Pasteurizing will put a final stop to these dangers, provided proper care and cleanliness is used in handling them afterward

It is the common practice to ship our wines when very young, and they go to long distances and pass through great alterations of temperature. Once pastenrized, they will stand this treatment without material danger or deterioration. If given rest for some weeks after the process, they may be fined, if necessary, and will arrive nearly as clear as they left the shipper.

One of the most serious sources of complaint against California wines in the East is that they "will not keep," the cause being very generally the fact that, being too young to be buttled like imported wines of greater age, they undergo unsound fermentation in the bottles, as they still contain germ food, and possibly germs of all kinds. All this is done away with by parte irizing without the need of salicylic acid and withput injury to the wine.

I believe that when these matters are fully understood by our wine makers and ahippers, the pastenrizing of wines before shipment will become the rule instead of

with valuable wines, of the perfect sound ness of which he has the slightest doubt. will not jeopardize his pecuniary interest and his reputation by omitting so simple and inexpensive a means of insuring their perfet safety. Wines made with all proper precautions may still go unscathed, as they come from the storage casks; but even the additional "age" imparted by Pasteur's process will, when wines are properly graded and valued, generally pay for the labor involved.

But all inducements toward the improvement of our product vanishes so long as the wine dealer continues to preach and act npon the maxim that "wine is wine" in his dealing, with the producer. The conmunistic principle is fatal to all individual improvement and progress, whether applied to society or to wine production; it stands next to adulteration and "stretching" in barring the progress of the wine indostry in California.

#### RED WINE PROM CONDENSED MUST.

Report on Springmuhl Process by State Analyst

In view of the interest attaching to evaporated must and pomace preserved according to Springmuhl's process, as opening a market for grapes without the heavy investments required for wineries, I think it proper to communicate at this time the resalts of an experiment made during the past season, with a barrel sample of the condensed must (with pomace) sent to the University Laboratory from the Geyserville factory, by Dr. Springmihl.

It should be stated that the arrangements at the factory were far from bling altogether satisfactory, on account of the has'e in which the various appliances had to be gotten together. While the condensers worked as well as could be desired, there was a deficiency in press power, in consequence of which the pomace could not be pressed as dry as is really required for the hest results; nor could the two condensers be worked up to their fall capacity. The grapes supplied to the factory could not be selected at leisure but had to be taken as offered. Without nice discrimination in respect to kind and even quality. A good deal of the stock supplied would, under the ordinary treatment in wineries, and in the absence of pastenrizing arrangements, certainly have yield d very inferior and onsound wine. The entire work was therefore conducted under the most unfavorable conditions, and a satisfactory outcome would weigh heavy in favor of the value of this method of ntitizing our sarplus of grapes that cannot find winery accommodation.

The contents of the package, at first sight resembling grape preserve, consisted of evaporated must or grape symp already mix-d with the proper proportion of skins or pomace, as was ascertained by a special determination. The grapes represented were, according to Dr. Springmuhl's statement, about half-and-half Zinfandel (first crop) and Burgundy. The identity of the grape so-called I have been quable to ascertain; it was denbtless not a Pinct, but probably Chanché Noir, possib y Trousseau. The light color of the wine speaks of some such light-tinted grape.

The spindle showed the solid contents of the syrup to be 72,6 per cent; acid as tartaric) 1.17 per cent.

On November seventeenth (about month after receipt package) 33 gallons of

duced by the addition of 60 gallons of distilled water, to 21.2 per cent of solid contents and .39 of acid. This regenerated grape mash was divided out among three tanks, for convenience of testing several modes of fermentation. All were "s-t" a temperature of 63°, and placed in th fermenting room kept at 72° to 75°. three were provided with the floating cover: one was treated with ordinary "foulage from the beginning three tim's daily; the two others were stirred by means of airpumping during the first two days, then simply stirred by usual.

It soon became apperent that all fears as to the automatic starting of the fermenta-Within 15 hoors a tion were groundless. perfectly normal fermentation was going in in all three tanks; but one started IS nours after the others), from some cans, lagged a little and reached its maximum temperature, as well as the 4 per cent of solid contents determined upon as the mark for drawing off, 15 hours later in actual time.

The maximum temperatures attained were respectively 91.5°, 92.5°, and 93°, reached by the first two tanks on the morning of the fourth day. After that the temperature rapidly d clined, and the pressing was done respectively after the lapse of 115, 120, and 146 honrs; the tank subjected to ordinary stirring being the first to come in,

The fermentation was so completely normal that no one would have suspected that the mash was not made from fresh grapes; and that despite the fact that the must had andergone evaporation at a temperature too hot for the hand to hear, and which would ordinarily be supposed to paralize or kill all fermentative germs. Yet evidently here there was no lack of them, and no yeast of any kind was needed for starting. The table below gives the summary record of the course of fermentation, as well as the analysis of the wine

The wine was quite light-colored, the maximum tint being 16.6, reached on the fourth day. At pressing the tint had already declined to 12.5 in the first two tanks, and had hardly changed from the maximum (of 14.6) in the third. The cause of this difference is not obvious; it disappeared afterward.

In the after-fermentation, also, these wines behaved normally; and on February 7th they were racked and combined into one sample of 70 gallons, there being no difference worth noting in the three packages.

At this time the wine showed to the taste e enrions combination of advanced vinosity with the veastiness of the new wine, and its very marked astringency was coupled with a slight bitterness that seemed to angur ill for the quality of the wine.

Thenceforth it was frequently tasted, and the gradual disappearance of the bitterness first noted was evident. At the beginning of Jone the wine was again racked; an examination of the sediment at this time showed complete soundness.

A testing record of June 16th, states that the bouquet is developing; astringency is pronounced, but pleasant; acid agreeable; no bitterness remaining " (M. E. Jaffa.)

A somewhat critical tasting made by the writer on July 11th, was recorded as follows "Fairly developed bonquet and vinosity; acid normal and sgreeable; no mark of unsoundness; wine, as a whole, wall developed for its age, and of very fair quality and clean taste, has lost completely the bitterness first noted, and while showing little of the exception. A prudent shipper, dealing the condensed must, plus skins, were re- the characteristic Zinfandel bonquet, would

not be suspected of any nunsual procedure in its preparation 3

Under the circumstances, this result must be a very fav roble one. It is true that the wine shows no high quality, but will be a good, ordinary table wine, a good deal than these commonly dispussed in r staurants, or even in mere ambitions places. With th materials no.d, f w win makers would have succeed d in producing anything better, if as go 1. What can be done with perfected appliances and a lot d materials remains to be seen; but the alvantage of having the making of the wine transferr d to establishments able to employ competent wine makers, and to conduct the op rations beisurely, and at wh tever place and time that may off r the best conditi us for a good fermentati n, is so great, that f r the sake of good, uniform quality, some of the higher attributes of wines may willingly be waived by the majority of consumers. Doubtless the Springunhl process will not make "Chateau" wines, but it seems very I kely to r dound to "the gr ater good of the greater number.

#### DRYING GRAPES.

R. M. Booth, a viticulturist from Roseville, Placer county, while in the city recently, was a visitor at the rooma of the Viticultural Commission there he gave some very valuable hints about dried grapes. He has been engaged in drying Mission grapes for sixteen years in a small way, and last year sold several carloads through a San Francisco firm. He says the hest market for these grapes. strange to say, is f and in the Western districts, notably in Montana, where they are used for domestin purposes. From recont correspond nee, Mr. Booth has learn d that the dried grapes are worth 33, cents in San Francisco for shipm at to London, and, in his opinion, England is a better market for them than France. In England they are substituted for ch ap dried fruits.

Mr. Booth has off red all the growers in his vicinity \$12 a ton for all their Mission grapes, and is buying and drying them in large quantities. H certainly thinks there is money in it, even when paying \$12 a ton for the grapes.

Mr. Booth's experience has taught him that the best and cheapest drying floor to he d sired is made by spreading cheap brown straw-not manilla-papers on the ground in sheets. The use of the paper facilitates the gathering up of the loose grapes and prevents loss. In this manner it requires from saven to nine days to complete the drying process, and the grapes are then packed in cotton sacks for ship ment. The paper, b ing cheap, is either abandoned or destroyed after the season is

Following this plan, Mr. Booth has been very successful and has made money out of it, and he has such cound uce in the dried grape business that he has entered into it quite extensively this year.

It is reported that in the Santa Ana and San Gabriel valleys a disease has broken out among the vines, the cause of which no one can understand, and which is termed sap-sonr. The vines begin to wither and in a short time die. The disease is infections and apreads very rapidy, and unless it is checked will destroy avery vine in the south The most successful remedy thus far discovered is to dig up the vines as soon as th y begin to show the blight and burn them, continuing the action until

### ARSENIC REMEDY FOR GRASS-

Report to State Board of Viticultural Commissioners. by W. B. RISINO, State Analyst.

During the summer of 1885 the grasshoppers had made such ravages upon the vines and fruit trees in many parts of the State that the vineyardists and fruit growers were obliged to resort to what seemed almost desperate remedies to save their crops. I refer to the rather liberal use of arsenic, mixed with bran, middlings, and syrup made into a stiff paste and then set before the advancing army of grasshoppers. The remedy proved effectual, and the destroying pests were checked and the crops saved. The question was now raised, whether fruit from vineyards and orchards where this remedy had been used was not poisoned, or at least might not contain enough of the poison to make its use injurious.

At this crisis I was called upon, as State Analyst, by your Board, to visit the district where the arsenic had been used, and to report if in my opinion any danger was to be feared from the use of grapes and fruits from those vineyards. I immediately entered upon this investigation, going to the vineyards where the arsenic had been used, observing carefully the manner of its application and subsequent treatment. I also studied carefully the habits of the grasshopper, and its behavior both before and after eating the arsenic. I gathered a large amount of material for subsequent chemical examination. I ought to add that I was everawhere received most cordially, and every assistance possible rendered me in the pursuit of my investigation. I also received much valuable information in regard to the habits of the grasshopper from the very intelligent and observing vineyardists.

Two methods of investigation seemed open to me: one experimental, i. e., by taking samples of fruit in large quantities, and from places where the arsenic had been used most freely, and then testing large samples in the laboratory for arsenic; the other involved the considerations of all the possible methods by which arsenic could be conveyed to the fruits and then by observation and examination either confirm or refute these possibilities.

I shall consider this second line of study first. In what way could the arsenic be lodged upon the fruit? The possibility of its absorption by the plant, and its deposition in the fruit, I assume as fully settled by experiments in the negative. I shall refer to this in another connection, and for the present drop it for a simple denial. Could any atmospheric agencies transport it and lodge it upon the fruit? Could winds blow it about and deposit it there? The method universally adopted in applying it precluded this possibility, as it seemed to me. It was applied as thick paste deposited npon pieces of shingles or shakes placed upon the ground. This paste hardened or thickened on exposure to the air or sun. and in no case did it become crumby or powdery, or in a condition to be blown about. It remained a coherent mass upon the shingle where it was placed. The grapes were clean, and a strong lens failed to show any dust lodged upon them. The araenic does not evaporate or volatilize at ordinary temperature, and so could not condense again upon any near object. No rain fell during the time of exposure, so that water could not, in any way, bave transported the poison. As the result of examinations of this sort, I could not escape ity, and hardily the faintest possibility, that any atmospheric agency could transport the poison. Could any animal do it? Could the grasshoppers themselves do it? This was quite possible, and the examination alone could decide.

In one or two cases I observed that the grasshoppers, having got into the mass when very thin and syrupy, had afterwards crawled upon the leaves. Their course could not be accourately followed on the leaves, because the arsenic, in this moist condition, killed the anbstance of the leaf touched, so that a brown line on the leaf gave the track of the grasshopper. Cases of this sort were extremely rare, and in no case could I see the mark of the grasshopper upon the grapes themselves. If the arsenic had touched them at any point when green, a dead and gnarled spot would have been formed. After recognizing the tracks of the grasshopper on the leaves, great cars was taken in the examination, but no second case was found. A theory had been surgested that the grasshopper might have vomited the contents of his stomach, including the arsenic, upon the grapes, and in this way the poison be communicated to the consumers of the fruit. Close observation failed to discover any instance of this. The habita of the pests were such as to make such an accident most improbable. Immediately upon cating the arsenic, he sought the shade. Mr. Goodman, of Fresno, assured me that he had watched them carefully, and in every case, immediately npon eating the poison, they had sought the shade, or water, if any happened to be near. A striking confirmation of this fact is found in the location of the dead bodies of the grasshoppers They are invariably to be found under the vines; hardly a single one was to be seen until the vines were moved, and then hundreds were in full view under a single vine. I watched carefully for dead grasshoppers in the clusters of the grapes; I ena only say I found none; it may be now and then a dead grasshopper may have become entangled in the bauches, but I can assert that it must have been a rare occurrence. In some places, I observed a very considerable amount of grasshopper excrement upon the foilage and among the clusters of the grapes. I collected a quanity of this excrement from the foilage, and took it up to my laboratory for examination. The subsequent examination of this excrement showed that it did not contain a trace of the poison; even when arge quanities were taken, there was no trace of the arsenic to be discovered by the chemical tests. The bodies of the dead grasshoppers, on the other hand, gave large amounts of the arsenic, leaving no doubt as to the efficency of the remedy.

The results of my observations in the vineyards gave only negative indications. As a final test, I picked myself in spots where the arsenic und freely, from thirty to forty pounds of grapes the different vinevards. These where the arsenic had been used most were examined for arsenic. In none did I obtain more than the faintest trace of this substance, an amount absolutely inappreciable, and to small too have any perceptible action upon the human body. This conclusion, as soon as reached, was communicated to Mr. Charles A. Wetmore, Chief Executive Viticultural Officer, and by him published in the dailies of the State.

Some other interesting and important question still remained to be considered.

If the arsenic should be left upon the soil, what dangers are to be anticipated to

possibilities are there of the araenic being taken into solution by the water and then entering the aprings, wells, or streams which may be used for domestic purposes? It would also be a matter of interest to enquire whether arachic is known to occur in auy appreciable quantity in arable soils; are there any well authenticated instances in which araenic is known to have been ap plied to a soil by accident, or otherwise, and with what result? Does arsenic occur in any spring water, or in any mineral spring that has been used by man for any period, and with what results?

Volla found a very appreciable quantity of arsenic in the boiler scale of steamer tha ran from Cologue to Mahlheim, on th Rhine.

Walchner, for many years member of th Mining Directory of the Grand Dachy o Baden, had occasion to investigate the iro ores of that country, and found that the almost universally contained arsenic in small quantities. As these ores were updoubtedly deposited from mineral aprings it occurred to him to test the deposit of iron springs still in existence. He found that these aprings, or rather that iron deposit from them, contained arsenic. He then extended his observation to some of the celbrated mineral springs of Germany. He examined the deposits of the iron springof the Black Forest (Griesbach, Rippolsau Treinach, Rothenfels, and Caunstadt), and also of Wiesbaden, Schwalbach, Ems. Pyre mont, Lamscheid, and of Brohlthals, near Audernach. The iron deposit of those springs all contained arsenic and other metals, and it is supposed that some of their medicinal properties may be due to this fact.

Walchner, having called the attention of chemists to this occurrence of arsenic further investigation showed that its presence had been overlooked in very many cases. He began the investigation of soils in this neighborhood of Heidelberg, and found abundant and clear evidence of the pres ence of araeuic in those ferruginous soils. Professor Will, in a very careful and ex haustive analysis of the springs of Rippoldsan, confirms the statements of Welchner. He found very considerable quantities of arsenic in the deposits from these aprines.

Professor Bousen, found that twenty-five out of thirty-eight mineral aprings, in the Grand Duchy fo Baden, contained arsenic. Many other mineral waters are known to contain this substance. It aeems almost impossible to escape the conclusion that arsenic is widely distributed in nature, and when proper methods have been taken to discover this substance in connection with iron deposits, it will almost certainly be

Arsenic is known to be present in the immediate neighborhood of many metallurgical works.

An analysis of this soil in the neighborhood of the Muldener Hutte in Freiberg by Stockhardt, showed the presence of arsenic for a distance one thousand yards and more from the works. It could not well be otherwise, when thousands of tons of ore have been roasted, which contained arsenic. This aubstance is almost entirely expelled, and passes into the atmosphere, and in a short time is brought to the earth again. in the neighborhood of the smelting works.

The presence of arsenic in soils is not a new discovery, but has been a practical problem for generations. This problem has been the subject of scientific investigathe conclusion that there was no probabil- the vines, trees, or future crops? What tion, especially during the last thirty or the plant that injury can result from the

forty years, and the most important points well considered.

Stockhardt remarks, in regard to the action of the fumes of arsenic in the neighborhood of the works in Freiberg: "Even in the near neighborhood of the arsenic works, at a distance of sixty to seventy yarda, the fielda everywhere were cultivated, either for meadow or forage crops, and field crops, did not appear to be specially affected, comparing similar slopes and similar soils. Among the grains, the oats seemed to be most sensitive to the fumes, etc."

This subject was taken up by Dr. McMutrie, the chemist of the Agricultural Departnent in Washington. Paris green had been used at the time in considerable pastity for the potato pest, and the quesion of danger to the vegetation was then aised. He was unable to find any arsenic in tha tuber of the potato. These experinents were continued, and varying quantities of arsenic, in the form of Paris green, arsenite of potash, and arseniate of potash, were used. He came to the conclusion that uine handred pounds of Paris green to the acre, four hundred pounds of aracuite of potash, and one hundred and fifty pounds of arseniate of potash, might be applied without injury to the plants.

I will not attempt to give a full synopsia of the literature opon this subject, but will content, myself with a brief summary of the most important recent investigations.

Dry arsenic aprinkled opon the foilage of a plant has but little, if asy, action on the plant. Fumes of arsenic under a tree, or in contract with a hardy plant, seem to ha entirely without action on the plant. A solution of arsenic is a poison to the plant, and all plants are quickly affected by it. Very small amounts may be absorbed by plants -succulent plants being most sensitive to the poison-and but little change is observed. A careful analysis of such plants mny show a trace of arsenic. Jager found tests for arsenic in certain dried plants which had been grown in soil containing arsenic. Von Gorrup-Bessanez detected the presence of this element in one hnudred and forty grammes of dried buckwheat straw, grown in a soil to which the arsenic had been added,

Professors Nobbe, Baessler, and Will, in the Landwirthschaftlichen Versuchs-Station, I884, have taken up the action of arsenic upon plants, and in a prolonged and exhaustible investigation, have come to the following conclusions:

- I. "Arsenic in solution is an exceeding active poison to plants. The addition of one millionth to the culture solution produces an appreciable disturbance of growth.
- 2. "The elements enters in very small quanities only into the plant; it is impossble to introduce an appreciable quantity.
- 3. "The action of arsenic proceeds from the roots upward, whose protoplasm is disorganized and deranged in its osmotic action: the rootlet dies without growth.
- 4. "The parts above ground show the action of the arsenic first by strong wilting, recovering slowly, followed by death.
- 5. "By obstructing the transpiration (i.e., shutting off the light, placing in a warm, room, etc.), it is possible to maintain the growth of plants in an arsenic solution for a time, without, however, removing the poisonous action of the arsenic, which asserts itself later."

All investigations seem to agree in this general conclusion. There is no danger of arsenic being taken up in such quality by

use of the plant food. If very much or even an appreciable amount should be taken up by the plant it must surely die. The spronting of seeds is destroyed by solutions of araenic; so that where there is a large amount of this substance in the soil it simply becomes barren.

The danger of contaminating wells will appear small after what has been said upon the wide distributing of this element in nature, and its occurrence in certain mineral waters. We have but few experiments to test the power of soils to retein orsenic Von Gorrup Bessanez used a very small amount of soil and retained 4.15 per cent of the arsenic. It may safely be presumed that a ferruginous or highly calcareous soil would practically retain the whole, so that the water filtered through it, although it might be mixed with poison, would only contain a mere trace.

A few words of cantion should be added to what I have said in regard to the use of this very deadly poison. It is a poison, and this most always be kept in mind. It should be gathered up and not left upon If a manfacturing chemist is the land. near he can easily convert it into pure arsenic again. If boiled with wheat or other grain it may be used for poisoning squirrels.

W. B. RISING.

State Analyst.

#### FRENCH WINE INTERESTS.

Adolph Houssaye writes from Paris to a Chicago paper that "the wine interests of France are in a had way. The vintage of 1886 was the poorest in thirty years, both in quantity and quality; but the vintage of of 1887 proves to be poorer still. Those whose vineyards have not been devasted by philloxero, and who therefore have good wine, will get very high prices; but most wine-growers will have to face serious losses. The districts that are worst off are the Gironde, the Chareute and the Charente inferieure. As a result of this, the balance of the foreign trade is heavily against France. Instead of selling wine to others, she has now to buy it for her own use. Ten years ago more than 80,000,000 gallons were annually exported, while the imports scarcely exceeded 5,000,000 gallons. What is the case now? Last year France sold only 54,000,000 gallons of wine, while her purchases amounted to the enormous total of 260,000,000 gallons. She actually imported half as much as she made. The worst feature of the case, however, pertains not to quantity, but to the quality of the wine. Some 31,000 tons of sugar were need last year to fortify the product of the wina presses. There were during the year imported into or manufactured in France no less than 120,000,000 gallons of a mixture compounded from raisins, cider and the refuse of the wine presses. This has been doctored and sold as wine. There have also been imported some millions of gallons of crude spirits, manufactured in Germany from potatoes and beetroot. This is treated with drugs, and put upon the market as purs grape brandy, when it really contains not a drop of grape juice."

Taz Anglo-American Times credits Arpad Haraszthy, the great Hungarian-California wine grower, with the statement that pure California wine can be laid down in the eastern cities as cheap as beer. He and others estimate the California wine crop of this year at 30,000,000 gallons.

#### ANNUAL REPORT OF BEORGE WEST

Commissioner for the San Josquin District, 1887.

TO THE BOARD OF STATE VITICULTURAL COMMISSIONERS-Gentlemen: A review of the progress made in viticulture in this district since my last report is very gratifying. Two years ago, the only counties that made any pretentions toward grape growing were Sau Joaquin and Fresno, while now the greatest interest is taken in viticulture throughout the San Jonquin valley, and there has been an immeuse increase in the acreage both of wine and raisin grapes, notably in Fresno county.

#### SAN JOAQUIN COUNTY.

It has been impossible to obtain an exact estimate of the acreage planted in vines in San Joaquin county, for the reason that the lands were long since divided into comparatively small holdings, and as they are almost universally fine, and nearly all well adapted to grape growing, a great many small vineyards have been planted, the exact acreage of which has been impossible to obtain. However, I consider two thousand acres a low estimate; and I am pleased to note in this connection that nearly all the vineyards that have been planted in the very choicest varieties of vines, the preference for wine grapes being for the Tannat, Cabernet Sanvignon, Cabernet Franc, Mondense, Verdot, Malbeck, St. Macaire, Petit Bouschet, Trosseau and Mataro, for red wines; the Folle Blanche, White Prolific, Boal and Colombar, for white wines and brandies. For table grapes the Black Prince, Tokay, Emperor and Black Ferrara are almost exclusively planted.

I would arge the planting of resistant stocks in all cases, the extra expense being amply repaid by permanency of the vinevard secured thereby.

#### PROSPECTS OF INCREASED ACREAGE.

It is probable that the coming winter will see a large increase in the acreage of vines, as the profits derived from the industry in this section are very satisfactory, the yield being phenomenally heavy, and the quality of the product excellent. San Joaquin county is so situated that both sweet and dry wines can be produced. No vineyards are planted in raisin grapes, for the reason that the season for drying is so short as to make the venture hazardous.

#### TABLE GRAPES.

Table grapes of a quality unexcelled are produced on the black lands around Stockton, and a considerable acreage is devoted to their culture. These grapes are mostly shipped to the Eastern markets, and the profits of the growers are very large. I look for wonderful developments in this branch of the industry. Lands can be purchased at from \$50 to \$150 per acre, according to location; and many of our wheat farms will be subdivided and sold at those figures during the coming winter.

No irrigation whatever is required for the growth of the vine in most parts of San Joaquin county; and where it is practiced unnecessarily it is at the expense of the quality of the product.

#### STANISLAUS AND MERCED COUNTIES.

Stanislans and Merced counties are just awakening to the importance of grape growing to the future developments of their lands. Both these counties contain a amall acreage of old vines and a more

in both counties, and with the better varieties of vinca now being planted we may reasonably expect an improvement in the product. Raising of excellent quality will undoubtedly he produced, as the warm, dry nights would seem especially adapted to the curing of the grape. Both of these counties contain countless acres of fine land, all of which has been devoted to wheat growing.

Several irrigation schemes are assuming definite shape, and a large amount of land will soon be placed on the market. It is probable that both Stanislaus and Merced counties will make the same rapid advancement that has been made in the more southern county of Fresno.

#### FRESNO COUNTY.

No county in the district can show such wonderful development in so short a time as Fresno. At the time of my last report, the acreage of this county was placed at seven thousand five hundred acres, while now, it will be seen from the statistics appended to this report, that nearly fifteen thousand acres are planted in raisin and wine grapes, of which nine thousand five hundred acres are in raisiu grapes, the balance in wine grapes. The profits from both branches of the industry are satisfactory to the growers.

The vintage of last season amounted to about one million five hundred thousand gallons of wine, nearly all of which has been sold at remonerative prices. vintage of 1857 will be much heavier, as a large acreage of young vines will be in bearing. A large part of the young plant of Fresuo county is devoted exclusively to port, sherry and brandy varieties, it being generally conceded that the San Joaquiu valley will excell in these products. Fresno county will undoubtedly be the banner raisin-producing county of the State, the cilmate being exceedingly well adapted to the curing of grapea.

#### THE BAISIN INDUSTRY.

The raisin pack of 1556 was about two hundred and fifty thousand boxes, and the amount will be materially increased this The profits of the husiness are season. large, and it is one particularly attractive to people of limited means, the heavy investments necessary to the wine business not being required. Many growers sell their products to the packers, in the sweatboxes, and realize a handsome income from a small acreage of vinea. An immense number of small vineyards will be planted this winter in raisin grapes throughout Fresno county.

A few years ago, the only vineyards in the county were in the immediate vicinity of Fresno City, but lately large tracts of land, both north and south, have been brought under irrigation and planted in

The vineyards around Minturn and Maderia, in the northern part of the county, are devoted almost exclusively to wine growing, while around Fowler, Selma and Kingshurg, on the south, the preference is given to raisins,

#### TULARE COUNTY.

Tulare county is at last realizing the fact that she has countless acres of fine land well adapted to grape growing, but it is only within the past three years that any important plantations have been made. There are probably eight hundred acres of vines in the county principally in raisin grapes, and as the conditions are similar, considerable acreage of vines of recent her products will undoubtedly equal those plantation. Good wines have been made of Fresuo in excellence.

Kern county also has planted a c usid rable acreage of vineyard in the past few years, and as a h avy immigration is pouring into the whole Sin Jaquit vally, it will be but a short time befor the wond rful resources of this county will be in refully developed. R garling the future of the industry in general, I have no fear-. Prices for grapes this season ar wry l w but I do not believe the depressi a will be of long duration.

The husiness of condensing must in its infancy, and when fally develop it will ondoubtedly relieve the market of a large part of thetsorplus crep. Our pru pal trouble has aris, n from th feet that our wines have been market dt o ye ung, but I believe most growers will n whill th m until they are properly material, and sales in the East will be materially increas d in consequence.

Respectfully submitted,

GEO WEST

Commissioner for the San Joaquin District.

#### EASTERN PROFITS IN GRAPES.

Some sections of Western N. w York observes a writer in the Orchard and Garden, seems admirably adopted to grave growing. and thus far without the drawbacks of di . ease. A single township is report to have over 2000 acres in vines, and the acreage plauted last spring is report d to have increased in some sections, from 150 to 200 per cent, which will fairly double the production within the next three years. In reference to the quistion of pay and overproduction, the answer is made that "there is double the money not, in grapes at two cents a pound than in any other crop they can put on their lands, and at that price, consumtion would increase, and the markets would take them all, even if the product was quadrupled." A chimerical idea to our view. Educating the people to eat grapes is a "big job" to be accomplished. We have been assured by some of our New Jersey growers that they believe that chimercial doctrine. We regret their ideas of profit are not more elevated. The farming and fruit growing business should | ay their followers as great a profit as is yielded by any other industry, and it is notorious, that at present it falls far, very far, short of it. If even these prices for grapes shall become the rule, many small growers, the writer included, will go to grass.

#### DELLITERIOUS SPIRITS.

A letter recently appeared in the Scotsman calling attention to the increasing importation of potatoe spirits into the United Kingdom, the increase for the first mx mouths of the present year having amounted to nearly 400,000 gallons. As this spirit is chiefly used for methylating purposes, it would, at first sight, appear that its increased importation was a sign of improved trade, and should consequently be regarded with satisfaction; but if, as is suggested, there is a growing tend ney among the lower classes to use methylated spirits as a beverage, the matter assumes a less favorable aspect. Few forms of alcohol are so mischievous as potato spirit, as, if used persistently, it produces insanity. It is a great pity that no means have as yet been found of making spirit for heating purposes absolutely undrukable, even by the most hardened topers but perhaps something may yet be done to effect this.



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FRIDAY..... SEPTEMBER 28, 1888

TEETOTALEERS do not have all the best of it, remarks the Wine and Spirit Gazette. when statistics are forthcoming as to the effect of alcohol upon the human system. A report has recently been issued from Dr. Owen, Secretary of the Investigating Committee of the British Medical Association, from which we extract the following: He examined into the history of 4231 deceased lives of twenty-five years and upwards, and found that the average age at the time of death was, in the case of-

The habitually temperate62.	13 years
Carelass drinkers 59-	67 "
Free drinkers 57	69 "
Decidedly intemperate 52-	03 "
Total abstainers	22 "

It will thus be seen that the total abatainers show the worst average of life.

NOTICE HAS been received of the formation of a Dried Fruit Association for California, which will be of much assistance in aiding the grower to dispose of bis produce. Although the Association will act for non-members, the information of markets, etc., will be available only to stockholders, who will at all times have access to the records. It will, therefore, be to the advantage of fruit-growers to give the new enterprise their active support. The capital is fixed at the nominal rate of \$250,000, in 250,000 shares of \$1 each. The officers of the Company are-A. T. Hatch, President; H. Weinstock, Vice-President: Wm. Bramball, Secretary, and the Bank of California Treasurer.

THE SUGAR Convention can hardly be considered a success. Although the majority of the European powers have signed the proposed treaty. France, one of the heaviest continental producers, declines to enter into the arrangement. The action of this government has all along suggested a disinclination to look with favor on the contemplated changes, while never directly refusing to take part in the proceedings. Even now there has been no refosal to join the Convention, but in accordance with a plan of delay carried out from the beginning, a desire is expressed to lay the matter over another year for consideration,

reports from foreign vineyards in Bonfort's Circular:-Warm western has favored the growth of grapes in the Grande Vinevards, the few thunder showers now and then intervening, were well calculated to hasten maturity.

The fine days were actively availed of to top off the lenfy branches of vines, and sulphur them as much as possible, so as to destroy every vestige of mildew attack, The vintage will not be completed before the 25th of September. At Charentea, while the fine weather lasted, good headway has been made in the vineyards, but the rains having set in again, anxiety about the vintage revives. The mildew has made such ravagea in the Maine-et-Loire during the rains, that subsequent treatment during a week of suusbiue has come too late, and in onr immediate vicinity we now see a fine erop that was in prospect, dwindle down to a mere nothing. At Angers, on the contrary, the vintage ontlook is fair. In the lower Burgundy, an interval of bright days have come too late to repair the damage resulting from the unseasonable weeks we have passed through. Prospects of a fair yield at Ronssillon, have improved somewhat, viue diseases having done hardly any damage to speak of in this region; a return to steady clear weather would still find us abundance combined with fine quali-

At Cette, the vintage outlook has improved. New Mineral and Villeneuve grapes for table use, have just been shipped to Paris; they are in fine condition, and if our general yield approaches them, there will be no reason for complaint. In Southern France, all that is required is a return of the warm days we had during a week to still secure us a fine vintage despite the many drawbacks we have had to contend with.

Exposed as Portagal is to the west winds which have this summer been prevalent and have overwhelmed Western Europe with more rain than has fallen there since May in any season for the past twenty-five years, we have had altogether to much of it, and too little sunshine. The consequence has been an extensive rotting of grapes on the vines; we shall, therefore, in any event not have as exuberant a yield as we had in 1887 and 1886, nor will the quality come up to atandard as a general thing, unless September and what there remains of Angust bring about a radical change.

Although, taken as a whole, this summer has brought an excess of moisture, the vines in the German wine regions have done toler ably well, the formation of grapes at the start haveing mostly been faultless. They have developed well and the early grapes gradually approach maturity; Portuguese have, as usual, done best. As September is the month that makes the quality, tolerable good weather during its course may still do wonders. Not that we dare expect anything extra in point of quality, still it may yet turn out quite acceptable.

Grapes have so far this month suffered neither from hailstorms nor from vine diseases, and, the frequent rains notwithstanding, vintage prospects continue tolerably fair in Hungary. A large yield is not expected, but a normally warm temperature may still secure good merchantable quality from now to the beginning of October, a thing very much to be wished for, 'The blue Radarka grape in this vicinity has done splendidly.

Advices from the various viticultural dis-

THE FOLLOWING is a summary of latest triets in Spain are on the whole most encouraging; vine diseases have been of little account, and, despite the many difficulties arising from the continual fluctuations of temperature, at times too low, it cannot be denied that the general crop prospects are all that could be wished for,

> The vintage in the colony of Algeria is going to he an unusually early one, but it it hoped preprietors will not harry their new wines to the market to shou. In the neighboring French protectorate Tunis, viti cultural is about the only thing that thrives, and is likely ever to prosper. It is making good headway; Frenchmen and Englishmen have taken it in hand, there are both money and experience at its disposal.

While vintage prospects are as a genera thing not bal in Italy, despite the vicissitudes of temperature in the northern and central portitions of the peninsula, th general situation of the wine trade as welar of viticulture in the south in particular, pases through a severe crisis.

FROM A TECHNICAL wine paper we gleat

the following statistics of taverns for the aale of distilled drinks, which, with rela tion to temperance facts in conut r distinction to wine cousumption, are of interest: Bukornia .... 1 saloen for 283 inhabitants. Moravia .... 4.6 293 6.6 . . Galicia..... 335 Silesia ..... 361 4.6 Bohemia .... 61 519 4.6 44 . 6 Tyrol ..... 631 64 61 Trieste..... 726 Garicia..... 735 Carinthia.... 6.6 817 64 61 Styvia..... 854 Dalmatia.... 6.6 .. 905 Istria . . . . . . 912 .. 1140 Lower Austria 66 .. 2974 Salzburg .... 6.6 Vor Artberg .. 3976 2963 Upper Anstria Carinthia.... 49,918

Where wine is grown and abundant in the Austrian Empire, the whisky tavern has little chance for flourishing.

San Francisco, September 22, 1888.

The Bradstreet Mercantile Agency reports nine failures in the Pacific Coast States and Territories, for the week ending yesterday, as compared with thirteen for the previous week, and thirteen for the corresponding week of 1887.

The failures of the past week are divided among the trades as follows: Two butchers, two grocers, one general merchandise. one saloon, one planing mill, one saw mill, and one dry goods,

THE PROPOSITION to dry a large portion of the grape crop, adopted by growers in the Livermore valley, is likely to result in a profitable basiness, judging from the tone of the correspondence now going on between the agent on this Coast for the firm of Ariel, Meinbath & Co., of Kansas City, Missouri, and Mr. Wm. P. Bartlett, of Livermore, The Eastern firms offer to handle all the grapes grown in this section, and well-dried at 234 cents per pound. This price is the equivalent, expense of packing and stemming deducted, of from \$14 to \$18 per ton for the fresh grapes, according to quantity. It is said that the offer has been accepted, and that Mr. J. O. Allen, agent for the purchasers, will shortly arrive at Livermore to make con-

MAGRE'S Real Estate Circular, issued for September, says: Although the real estate market was reckoned a quiet one in August, nevertheless a very full business was done in it. The total number of sales recorded was 441, of the value of \$1,877,419. These figures do not by any means, either, represent the total transactions of August. Not to speak of the Lick sale of a million and a quarter, not yet of record, there were at least fifty more sales, of the value of over \$520,000, which are not yet closed. In some quarters it has been stated that, in consequence of the dollness of the later spring and summer menths, prices had deelined. We would at once note the reduction if it occurred, but we know of no such reduction anywhere. Holders for two or three years have been so accustomed to advances, that stationary rates are looked npon as a decline. With September the fall business opens. The fall and winter s-asons—say from first of September to the middle of April, are always the most active in the real estate business in San Francisco. The nearness of the Presidential election may reatrict activity, but will not prevent a good real estate business from being done.

AFTER AN experience of over eight years, be business of the Sonoma Wine and Brandy Company of New York, bas increased to such proportions, that much larger premises were required. The firm has therefore been forced to add to their storage capacity by taking in the adjoining building, No. 3 Front street, which has been connected with No. 1 by a large archway, This gives ample room for 78 casks which range in capacity from 1700 to 3500 gallons. This company is agent for the brandies and sweet wines of the wellknown vineyardists, George West & Son.

THE FOUR principal wine-makers of the Glen Ellen grape-growing section of Sonoma county have decided to form a combination of their own and will hereafter make their wines at the two points nearest the Santa Rosa and Carquinez Railroad and ship it directly East. The members of the combination are Captain Drummond. Arthur Macartney, Lawrence Watson and Mrs. K. Warfield. They represent about 150,000 gallons of the best wine in Sonoma, the product from French and Rhine cuttings.

THE SANTA CLARA COURTY Viticultural Society held their regular session last week. Suggestions were made that it would be well if the Society would encourage the making of an exhibit of the county viticultural products. Considerable discussion then took place on the condition of the market and prospects of the fruit crop. The gratifying statement was also made that producers were being offered \$13 per ton for their grapes.

#### WHOIESALE MARKET.

Quotations given are for large lots to the whole CALIFORNIA RAISINS.

Halves, Quarters and Eighths. 25, 50 and 75 cent igher respectively than whole box prices.

Londe D Layers, choice per box ... . \$1 65@ 1 " 1 80@ 2 Layers, per box ... . 1 50@ 1 Layers, per box 1 80@ 2 100
Layers, per box 1 80@ 2 200
Loose Muscatels, commoo, per box 1 40@ 1 50

"" choice, 1 55@ 1 60

" fancy, 1 60@ 1 180
Chattenmed " io sacks, per h. 45@ 1 50
Stenmed " 5@ 55%
Seedless " per 20-h. box 90@ 5c " per 20-h. box....
" Sultanas, unbleached, in boxes, & h.
" bleached, " "

CANNED GRAPES. 

#### SENSIBLE SUGGESTIONS.

JOHN H. WHEELER, Esq., EXECUTIVE OFFICES STATS VIFICULTUBAL COMMISSION.

Dear Sir: 1u reply to your circular 1 must confess profound ignorance as to the questions it propounds. I have been here only a month or so, and possess merely the meagre knowledge of the culture of the grape the East is apt to bestow, However, I am very anxious to learn; and if you can spare me enough of your valuable time to inform me where I can procure a concise method of the newest and best mode of treating the viue, as well as the kinds best adapted to the various purposes, I would consider myself under deep obligations to you. I am almost totally blind; but listening with the keenest interest to the proceedings of your last meeting, which my children read to me, I agree with those who advocated an intimate co-operation, but see no salvation in the establishment of a bank. My experience has taught me the otter selfishness of such institutions, which universally devour those who fostered them. Some day I may, with your permission, lay bafore your society the detailed plan for a close and strong union of the viticulturists. but shall confine mysel, to-day to a few general hints.

The Union ought, if possible, embrace the entire fraternity. It ought to have an executive board, to which the members should submit Implicitly. A moderate admission fee should be charged, to be spent in securing a large central depot here and at some convenient place Esst, whence all movements in that region could be directed. A few salaried officers should superintend all local as well at general shipments, which ahould be uniform and made on such road or roads as would grant the most liberal rates. The wines shipped from here ought to be inspected by the officers of the Union, and all those unworthy of its reputation rejected. A yearly fee should be charged ell the members-in proportion to the acreage owned by the members. The shipping should be done in winter, in lots of-say, a thousand barrels at a time; if possible, in large trains chartered for that purpose, to secure the possible cheapest rates, large number of agencies should be established in the East, to which the convoy could be dispatched without delay, to receive such treatment as the case might require.

Such a scheme could be easily executed provided the members of the Union coold and would rise above that sordid aelfishness and individual greadiness, unfortunately characteristic of the majority of our race. If it is not carried out; if the business is continued in the present desultory and shiftless manner, it requires no prophet to foretell the gradual decay and final cessation of the viticulture of California. We should not look to the support of the State. which, I am sorry to say, is generally blind to its best interests, but seek our salvation in a co-operation void of the objectionable features now generally tainting trust and corporationa.

Begging you not to criticize too severely the words of a well-meaning supporter of the good caose, I sign myself,

Yours since rely. RUDOLPH LEONBART, SB. Farsno, September 23, 1888.

LATEST NEWS from the wine-making districts cannot be termed as favorable as it might be. The low percentage of sugar gives much trouble in fermentation. This is especially the case with the Ziofendel.

#### REPING TRESH GRAPES

C. A Green, in an Eastern wine paper, in discussing this interesting subject, a ya If you have a cool, dry cellar or fruitroom and the best keeping varieties, the question of keeping grapes is a simple one. At the great vineyards the grapeare brought in from the vineyards in lorg, shallow picking boxes, holding perhaps forty pounds, which are stor d one above the other in fruit houses and left there until wented for market or other purposes. Months after they come out as fresh as when picked. If the room is very damp, or the grapes are placed in too large or deep boxes, they will mould. Thick skinned grapes, like the Agawam, Isabella or Cawtawba, keep best; while such tender-skinned varieties as the Coucord are the poorest -yet I have kept Concords np to January by packing in dry sawdust in market or bushel baskets. A simple method is to place grape leaves between layers of grapus, as you pick th m, or sheets of paper. This prevents the clusters from pr ssing against each other too closely, thus preventing mould and decay. Handsome clusters are preserved by cutting a piece of the vine with it, and placing one end in a bottle of water, also by covering a stem of the cluster at the point where cut, with wax. Remember too avoid too dry, too damp, and too warm rooms. Grapes should be kept as near the freezing point as possible, and not freeze. While immature grapes are always destroyed by freezing, Patrick Barry save that those fully ripened are not destroyed. He has had ripe Delawares freez without injury.

E. P. Roa kept Cawtawba, Isabella, Diana and Iona by picking on a clear day, using grape seissors so as not to handl. much, removing all imperfect berries and placing in clean, dry earthern jars, in layers a bonch deep, and filling the jar in this way. Place a double sheet of paper over the top layer and put on the lid. Strong, unbleached muslin is passed entirely over the lid, or cover of the jar, cov ering has fully dried and hardened the jars are buried on a dry knoll beyond the action of the frost, a stake being placed over each jar to locate it accurately.

#### THE MISCAT GRAPE.

The superior quality of the Muscat grape says the Reveille, is becoming more marked every year. Cloverdale climate is particularly adapted to growing this variety, especially so in the foothills in the vicinity of town. It gives additional tlavor and produces more aggar which are advantages in its favor. Besides being favorably adapted to the growing of this favorite table grape, an unlimited market is being opened up at every door. The extension of the milrond to Ukish and then on to Eareka, opens np a vast territory which cannot grow the Muscat grape, and the demand from that source will take all the grapes that can be grown here, and at prices that will be very remnuerative.

This has been a very bad year for vine yardists, as the prices ranges from \$5 to \$12 for Zinfandel and good wine grapes. However, the Muscat variety sold for \$20 per ton. When prices are again restor d the Muscat will raise in proportion, and will always stand among the highest priced. On the event of the railroad being further axtended to meet some Eastern road which is heading for the Pacific Coast, Clever

dale will be on the direct line, and then the market will be of ened through the Northern States and Territories, a non-froi producing country, and daily fruit trains will be formed in Sonoma county in season for Eastern shipment. The Muscat grape is one of the best shippers and one of our most desirable fruits, so we arsafe to say that this fuscions grape has a most profitable future. In this desirable vicinity, with land in the foothills adapted to grapes or any desirable front, that can be purchased from \$15 to \$40 per acre, what opportunitis are laying open for good, enterprising people to develop,

#### AWARDS FOR WINES.

The awards for premiums on wine and brandies exhibited at the State Fair have been made as fall iws

Best general display of California brandies and wines - H. W. Crabb, of Oakdale, Napa county, \$100.

Best brandy over one year old- H. W Crabb, \$20.

Best brandy one year old--H. W. Crabb,

B st sweet wine-H. W. Crabb, \$20.

Best white wine Riesling)-F. Gundlach & Co., San Francisco, \$20.

Best claret wine over one year old (Zinfandel) - F. C. Hellwig, Nevada City, \$20.

Best charet wine one year old (Cabernet) M M Estee, Napu, \$10.

Best sherry wine -M. S. Nevies, Sacramento, \$20.

Thr samples of win at I brandy tested were tak in from each exhibit by Superiu tendent La Ru , and the entire bottle wrap ped in paper and numbered, so that the experts who made the test were unfamiliar with the maker's name.

#### WINE MATCRICY

It seems a meanse of the word, says the Analyist, when we apply the term ripening to such products as wine and liquors, y t as a matter or chemical and gastronomic science, the application is not only approprinte but even happily sngg stive. The analogy between the process undergone by a peach in passing from the green to the mature stage, to that undergone by a wine or liquor, is, if possible, more than an analogy, and closely approaches identity, The fruit changes in texture, becoming softer and 1 ss fibrous, the starch is modified into glucose, minute quantiti s of hydro-carbons are broken into the compound ethers and alcohols, which make up the flavor and bouquet, and many injurious substances are broken down and destroyed So, in the aging of a Mulbira wine, a whisky or brandy, there is a thange in the texture, or, to use a more accurate term, the specific gravity. A microscopic amount of germ is metamorphosed into glucose, small quantities of the fusil oils are broken into more composite compound ethers and alcohols, and other elements are lost or destroyed. It is no expresse of the scientific imagination, but a demonstrable truth, that a pear which passes into d licions and perfect meturity upon the bough, passes through the some dvelopment as a barrel of old Mad irs or a eask of coguae in a well-appoint d warehouse. The analogy or identify rut seven further. Unripe fruit is notoriously diffi- 75c; Black Hamburg, 20ch, 40c.

cult of digestion, producing serious disorders. Its taste and odor are frequently repulsive, if not at least disagreeable. is us d only by the ignerant, and notably by the small boy, so often ridiculed by tha humorist and paragrapher. Uuripe wines and liqu as often exert a corresponding infla nee upon the assimilative system. A new or "green" Bord-aux or Burgundy frequantly causes vomiting; tresh eider and grape juice, diarrhosa; raw whisky, gastritts and enteritis. Such goods are never used by the connoisseur, but only by the ignorant. It requires but little knowledge and experience to discriminate between ripe and unripe fruit. It requires much to distinguish between ripe and nuripe wines and liquors.

#### Sugar Quotations

California Sugar R finery price list dated September 27th Circle A. Pat Cube, 85,c; Circle A Crashed, 714c; Fin Cushed, 84,c; Extra Powdered, 8 ,c; Day Granulated, . c; Confectioners' Circle A, 81, c; Extra C. 73. .. Gold a C, 7 .c; Star Drips Syrap, in bbls, 30c; hf do, 321,c; 5-gall kega, 371 et 1 gall tins, 471 e per gallon.

Price list of the American Sugar Refinery Best California port wine -H. W. Crabb, | daled | September 6th: Extra Fine Cube, in bbls, 53.c; Circle A, Crashed, 8%c; Fine Crusbed, 81,c; Powdered, 81/c; Extra Fine Powdered, 82,c; Dry Granulated, 83,c; XX Dry Granulated, 81, c; Confectioners' Circle A, 8c; Extra C, 71,c; Golden C, 67,c; American Golden Syrup, in bbla, 30c per gallon.

#### Grapes as Food,

It is now conceded by scientists and well informed men, in all professions, that, aa food for human beings, there is nothing in the vegetable world superior to grapes; and they not only give strength, endurance and vivacity to those who regard themselves as well, but restors the sick and debiliated to health, when eaten freely during the viotage seasons of the year, in the vineyards, or fresh from the city markets. It is elso a well established fact, in grape regions, that the large number of girls who work among grapes continuously throughout the seasons of ricking and shiping, which is from September to December, or later, g in in flesh from five to twenty pounds, and many who come from the cities, in delibated health, return to their bomen, well and strong.

FOR THE mouth ending July 31st, the total value of imports of merchendise into the United States free and dutiable was \$59,318,627, against \$56,593,226 in the same period of 1587. For July, 1888, the total value of exports of domestic merchandise was \$42,908,616, against \$16,500,913 in same month of 1887.

THE NATOMA Vinevard Co., has been ine riorated with a capital stock of \$600,000, divided into 6,000 shares. The directors Il rman Bendel, Daniel Titus, Chas. W bb Howard, O. S. Howard and P. W.

THE LATEST San Francisco prices for grapes are as follows: Rose de Peru, 30(a 450; Muscat, 31 (a 35c, per box; Malvoisie, 1 . 45e; wine grapes (per ton , \$1 % 20; Tokay, 30 : 60c.; white grapes, 250 10c.; Curuch ry, 500. 75c; and Isabelle, 500

Commissioner for the Sonoma District, 1887.

TO THE BOARD OF STATE VITICULTURAL COMMISSIONERS-Gentlemen: The undersigned Viticultural Commissioner for Sonoma District, which includes the counties of Sonoma. Marin, Lake, Mendocino, Humboldt, Del Norte, Trinity and Siskiyou, herewith aubmits a report of the grapegrowing interest of said district.

Since making the last report, there has been a large increase in screage, and a marked improvement in varieties of wine

#### QUALITY.

We find the quality of our wines very much improved as the vineyards age. The old Mission grape, that years ago made very harsh and rough wines, now produces from the same vineyard wines which would not be recognized as Mission; these wines are now mild, soft and sgreeable in taste. There is no doubt that, as the vineyards age, we will be able to produce as good wines as those from European vineyards.

We must, however, look to the best European varieties of wine grapes for the future fine wines of California, it having been thoroughly proven hy actual experience that the fine wine grapes of Europe preserve their best characteristics iu California. 1 would recommend to all those who intend aetting out new vineyards that they plant only the choicest European varietiea, as these varieties are now abundant enough to be obtained from almost any of the vineyards throughout this district.

#### SCNOMA COUNTY.

According to the assessor's report of Sonoma county, there are twenty-five thousand acres planted in vineyard, aggregating twenty million vines. Sonoma Valley and adjacent hills have long since proven their superiority for fine wines, and the country lying between the Sonoma Valley, Santa Rosa, Healdsburg and Cloverdale, has a well-established reputation for fine quality in grapes and wine.

Experience has taught that the hilly lands of this district are specially adapted to the wine grape. In fact, the same rule applies in California as in Europe-viz: the best wine grapes are produced on billy

#### YIELD OF WINE.

It is well known that in the famous vineyards of Enrope the yield of wine is comparatively small. It is not claimed that the vineyards of Sonoma District yield so largely of grapes as other grape-growing sectious, but we believe the future will prove our wines to be of superior quality. AGING.

It has been claimed that California wine does not improve after two or three years, and that the wine should be drank by the time it is three years old. This advice is calculated to deter people from holding their wine to age. The fact is, that California wine improves by age as much as any other wine. However, the wine for aging must be sound and well fermented. My experience is that wine is not a good and wholesome drink until it is two years old and over.

#### VARIETIES FOR IMPROVENENTS.

As a greater portion of our vineyards are planted with Zinfandel for red wine, I would recommend for improvement in quality, grafting in, say from five to ten per cent. of Cabernat Sauvignon, Cabernet Franc or Merlot; these varieties are shy

ANNUAL REPORT OF I. DE TURK, bearers, but of high quality. For quantity and quality combined, I would a commend the Tannat and St. Macaire. By such grafting, we will by degrees improve and change the quality of our wines in a few years, to such an extent as to defy competition and adulteration. Ordinary wines are easily imitated, but fine wives cannot be imitated by artificial means; neither can ordinary wines be flavored to equal fine wines. To change the vineyards of ordinary white wine grapes, I would recommend grafting in Johannisherg Riesling, Semillon Blanc and Sauviguou Blanc. The Johannisberg Riesling is, perhaps, the finest of all white grapes, but is a very small bearer.

DISPASES OF THE VINE.

observation 1 am pleased to report the abaence of any alarming disease among the viueyarda in Sonoma district, with the exception of phylloxera.

In Sonoma Valley the phylloxera has been found since the earliest knowledge of its existence in the State, and is slowly but surely advancing. It has reached within six milea east of Santa Rosa, where it has been found in one vineyard.

I am happy in being able to report that Mr. Dressell and others of Souoma have proven beyond a doubt that the native wild wine of the Eastern States, Vitis riparia, thoroughly resists the phylloxers. Further, it is practically demonstrated that the grafting of fine European varieties on this resistant stock is a grand success.

#### CLIMATE.

The frost has occasioned considerable loss in some of the vineyards through the middle and southern portion of the county; the damage aggregating about twenty-five per cent. It is thus far imposable to estimate the damage by blight or coulure. I estimate the crop of 1887 thirty-three per cent, less than was that of 1886. The northeru part of Sonoma county escaped frost, and the crop prospect is reported to be fully as large as that produced in 1886.

A comparatively new district has recently been developed, known as Green valley, lying on the lower part of the Russian river, adjacent to and among the redwood country west of Santa Rosa, where there are some ot the finest and most promising young vineyards of the State. This section bids fair to have in the near future a reputation second to none other in the

The energetic and enterprising viticulturist, Guy E. Grosse, of Santa Rosa, has demonstrated the fact that there are thouaunds of acres of land in the Sonoma district which, though at one time covered with brushwood and heavy undergrowth, and considered worthless, can now be classified among the best wine and fruit lands in the country. They need only proper clearing of brush and stone. The same lands now carry a value of frem \$300 to \$500 per acre when worked into good condition for cultivation.

The number of gallous of wine manufactured from vintage of 1886 was 3,500,-000, from 25,000 tona of grapes worked.

#### LAKE COUNTY.

There are quite a number of promising young vineyards in this county, and with the climate, adaptability and nature of the soil, Lake county will in the future be one of our first-class wine counties. .

#### MENDOCINO AND OTHER COUNTIES.

Of Mendocino county I cannot obtain

any positive information, but from what I have learned there is but very little attention given to viue culture. I can also report the same of Siskiyou, Homboldt, Trinity and Del Norte. Marin county is slowly but surely increasing her viueyards,

Respectfully submitted,

I. DETURE.

Viticultural Commissioner for the Sonoma

### FOR SALE.

#### Wine Press

- APPLY AT-

Office of "S. F. MERCHANT,"

#### From general information and personal FARM FOR SALE

Two hundred acres in Sonoma County, ten minutes drive from railroad station, Forty acres planted in the finest variety of vines. The balance rich river bottom, and rolling land capable of the highest cultivation. Several never failing springs and plenty of oak and redwood timber on the property. Good house, large barn, and nut buildings. Scenery, climate and roads unexcelled. Good fishing and bunting in the neighborhood all the year round. Oue f the most elegant and profitable suburban homes in Northern California.

laquire of "W. H.," office of the San Francisco Meschant.

### Registration for the General Election.

All electors desiring to vote at the General Election to be held Novemb r 6, 1888. must be registered regardless of any previous registration.

Registration for the General Election to be held November 6, 1888, will commence at the Office of the Register of Voters, in the basement of the New City Hall, on WEDNESDAY, August 8, 1888, and will continue until MONDAY, October 15, 1888, industrial Continue of the New City Page 18, 1888, and will continue until MONDAY. October 15, 1888, industrial Coffice hours from Page 18, 1888, and will continue of the New Pag Office hours from 9 o'elock A.M. to 5 o'clock P.M.

The registration of voters in the precincts will be held from October 16th to 20th inclusive. By order of the Board of Election Commissioners. BEN. A. PRINDLE, Registrar.

August 4, 1888.

#### OLIVE RANCH OF 448 ACRES,

Or 240 acrea in one place and 208 in the other. Sold together or apart, having 11,000 olives planted, and commence to bear in 1887. Fully equipped with buildings, agricultural tools, horses, etc. Sixty tona of hay and plenty of grain; fine atream of water. Title perfect. Situated in Santa Barbara county, near Los Olivos depot. Will sell at a bargain.

For particulars apply to

W. A. HAYNE, Jr.,

SANTA BARBARA, - - - - CAL.

# JOHNSON-LOCKE MERCANTILE COMPANY.

## COMMISSION MERCHANTS.

SAN FRANCISCO.

## Sole Agents Pacific Coast.

Royal Baking Powder,

Kingsford's Oswego Starch, Walter Baker & Co's Chocolates and Cocoa, John Dwight & Co's Soda.

We will offer a full line of other Grocers' articles shortly,

California's Million Dollar Company:



OF SAN FRANCISCO, CAL.

CAPITAL. ASSETS: 747,488 45 JANUARY 1, 1875.....\$ 300,000 JANUARY 1, 1880.... 750,000 1,160,017 00 2.181.925 18 JANUARY 1, 1888..... 1,000,000

Losses Paid in Twenty-five Years, \$7,500,000 00.

D. J. STAPLES, President, ALPHEUS BULL, Vice-Presiden, WM. J. DUTTON, Secretary, B. FAYMONVILLE, Asst. Secretary,

#### OUR NATIVE WINE SHIPMENTS BY SEA.

PER P. M. S. S. CO'S STEAMER SAN BLAS, SEPT. 15, 1888.

#### TO NEW YORK.

			_	
manus.	AHIFFERS.	PACKAGES AND CONTENTS.	BALLONS	KILLE
A CO		2 tarrels Wine	2444	
J C	C Carry & Co		100	8.2
	45	1 barrel Brandy	51	125
SS& Co		10 barrels Witte	802	150
A M	•	10 barrels Wine		250
G F		52 barrels Win-	2,660	1,000
C V Co		25 barre s Wine		630 H 3
A V Cm	shilling & Co.	150 barrels Wine	7,102	2,811
U	I Gund'ach & Co	641 barre's Wine		
4.5	**	I half barrel Wine	23119	1,179
**	44	1 keg Wine		
60		10 cases Wide		45
8.6	**	I barrel Brandy		241
6 D	Williams, ltimond & Co	9 packages Wine	257	125
A V	. Lachman & Jacobi	15 barrels Wine	765	257
EYB, in dramond	-1 **	35 barrels W ne	1,789	611
Il in diamond		15 barrels Wine	771	258
88	**	20 barrels Wille	1,027	291
E B & #1		25 barrels Wine	1.999	554
F 4		25 barrels Wine	1,275	362
A E		10 barrels Wine.	512	155
C N		6 barrels Wine		157
S in diamond		20 tarrels Wine	1.004	455
CD Kim		45 puncheons Wins	4.961	1.005
C & 11111111111111111111111111111111111		*** g	1,001	W de la Sec
Potal amount of Wine	10 cases and		25 5 311	810 557
			50	135
TOTAL SERVICE OF DURING	The a processing accounts			100

#### TO CENTRAL AMERICA.

CH, San Juan del Sur Horace Davis & Co. 2 barrels Wine	102	8392
P.J.A. Corinto stockton Milling Co 13 packages Wine		346
G in diamond, San Juan del Sur Upham & Co 2 barrels Wine		7.3
" 10 cases Wine	25	48
A S. Amapala John T Wright 21 cases W ne		87
L L. Amayala 3 kegs Wine	36	27
JTW, Acajutla " 20 cases Wine		85
L & S. La Union J W Grace & Cn 22 packages Wine	110	100
C P, San Juan del Sur J Gundlach & Co 1 keg Wine		18
D B. Amapala B Dreyfus & Co 9 cases Wife		28
B M B. Connto		20
JE, Amapala		104
JFA, Corinto	20	26
V A. Champerico	100	83
FT La Libertad Urrela & Unoete I case Wine	62	46
A W, Oces " 4 cases Wine.		15
Total amount of Wine, 60 cases and	599	81.184

#### TO MEXICO.

		271		
M L. Sahnas Cruz			bl	5.:
		a barrels Wipe	375	316
OF; Mazatian	**	2 kegs Wine	23411	27
P D & Co. Acapulco	W Louiza	2 casks Wine	114	46
V C. San Blas	J Gundlach & Co	6 kees Wine	1.23,	68
69	64	I care Wine		4
N C. Mazatlan	Redington & Co	I keg Wife	5	10
		I cask Wine.		35
M G, San Blas	6.6	10 cases Wine	206	141
F. Topala	John T Wright	1 barrels Wine	451	300
A V. Topala	66	10 cases Brandy	23	63
'ntal amount of Wine, 1	case and		1,446	€1,059
			23	63

#### TO NORWAY.

Christiana   Hirschler & to   15 bar els Brandy   5 barrels Wido	251	\$700 150
TO PANAMA.		

#### PER P. M. S. S. CO'S STEAMER SAN JOSE, SEPT. 22, 1888.

#### TO NEW YORK.

S in diamond	Wm Hoelscher & Co. Kohler & Van Bergen. Lenorman I Bros A Green taum & Co.	100 barrels Wine 3 barrels Wine 1 barrel Bran y 125 barrels Wine 2 barrels Wine 2 barrels Wine 20 bair barrels Brandy 20 baif barrels Brandy 60 keys Brandy 7 barrel Wine 1 haif-barrel Brandy	47 6,173 100 258 526 600 349	\$2,500 117 113 1,850 39 449 289 380 190 60
		Ball-oatter Drainey	11,63s 1,45s	84,692

#### TO CENTRAL AMERICA.

C E C. Popta · Arenas	Eug de Sabla & Co	19 barrels Wine	1941	8563
11	6.6	- barrels Brandy	3 5951	211
16	LS Hass	I barrel Whiskey	42	14.2
5.6	**	1 barrel Whiskey,	4 1	E 12
A G is square; Coristo	F Mocks	51 Cases Witte	7.7	125
	**	1 cask Wine	50	25
44	**	1 keg Wine	10	ti
J F C. Cerinto	60	10 packages Wine	45	80
M h. Corinto	**	12 jackages Wine	5-	E40)
P E & Co, Puntas Arenas		50 barrels Wine	1,257	700
E E c in diamond, Puntas Are's	H H Kohler	Sty barrels Brandy	199	218
Total amount of Wine			2,471	\$1,893
Total amount of Brand;	7		3115	438
Total amount of Whick	eV		55	191

#### TO ENGLAND.

LO& Co. London .	J William	a. Dimond & Co	6 casks	Wine	1 4721	1330

#### TO NEW YORK-PER SHIP OCCIDENTAL, Sept. 21, 1888.

-	D M & Co	liciatie d, Morgan & Co.	'B U I rely W ne .	14 573	\$5.949
	EBAS	Lachman & Jacobi	500 barre a War e	14,310	9.731
	C W Co	Cereia Wire Co	401 barrels Wire	19,778	
	M in diam of	B Drevfus & Cc	2711 larrela W c	12,150	4,54,0
,n	G & M	P. Schmidt	ST a p house Wite	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	31.00
	68	16	-1 - larre a Wite.	20,760	8,004
	h & F	Kohli e k. Frah see	_3- larre » W ne	12.113	4.541
	JAS.				
	***************************************	11	Signance brancy	1,251	2,702
	P. Is & 41-	D. D	- i Januares pueper	+31	1,282
	B D & Co	B Dieyra & C	Mi. b rrea Wine	14.010	5,5431
	Sebastapocl	Marin, letterer & Co	Di barrels Wine	2,172	40 80
	J A #	L I Snew	i has to trait Wine	1.4	10
0					
>	Total amount of Wine			121110	FIN 443
9	Total an unt of Brandy	*****		1 9 40	3,964

#### MISCELLANEOUS SHIPMENTS.

			The second second		
DESTINATION.	2 EB 47 1 *	819	OALLOS!	VALUE,	
Victoria Chipa Japan Apin Victoria Honolulu Japan	J. N. Ir radis t matri ia. City of Rio J. Pe Po  Backing Was Mixico A. straita Oceabic C. D. Bryant	-tramer Steam of Steam of Siconor Stamer Stamer Steam of Steam of	562 764 *1 1,659 195 327 4,116 4,99	\$381 333 52 935 101 164 2,5;9 200 57 596	
Honolphu	Albary. Umatifa W.G.I. wid.	Brig	11.165 1.765	165 103 1,311 87,317	

Total shipments by Panama steamers Total Miscellaneous shipments		46,759 gallons 132,165 %	\$20,723 55,7£0	-
Grand totals		 179/45	\$76,493	

#### CHALLENGE

## Double Acting Wine Force Pump



The annexed out represents our Hornontal Challenge Wire Fump, of great compactness and power, for ose in some cofora for pubping from one tank into another. The Cylinders of our from Pomps are brass flood, the pinton rod, salves, and valve reate are brass. Gur all Frass Pimps are mode entirely of brass, with the except in of the ever, and at an extra charge we will furnish them also with all metallic valves.

also with all metallic valves.

The saters any are large and very direct, and the whole pump is so simple that there is no lability to get out of order, and so substantial as to be very enduring. This Fining is extensively used by Wine Men. Being compact it is easily removed from place to place. The arrang ment of the lever makes it we laborious to work than the ordinary lever. We recommend this lound to wine desires as the most service able P mp for their requirements, and gramates them equal in every is spect to any lump for this purpose in the market.

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#### MERCURY TREATMENT FOR PHYLLOXERA

Repo t of Chas, Krug, Chairman of Committee of Invest gation.

To the Board of State l'iticultural Commissioners

GENTLEMEN: At the regular meeting of the Board, held in the early part of the present month, you appointed a committee to examine the Hagen Vineyard, near Napa, in order to determine the effect of the mercurial remedy which had here been applied for the destruction of phylloxera some years previous. This committee consisted of Charles Krug, H. W. Crabb, and your Chief Executive Officer, J. II. Wheeler. It is now my duty to report to you thus promptly the result of our investigations

First, let it be understood that the remedy had been applied under the personal direction of its inventor and exponent; it may therefore be presumed that the work was properly and thoroughly dona. To prepare the mercury for this use, it is reduced by triturating with clay to a state of minute division. A small quantity of the mixture, sufficient to include one half onace of quickailver, is placed in the hole prepared for receiving the cutting or reoted vine. Its presence here, and spreading - a quality peculiarly possessed by this metal-is expected to destroy the phylloxera, and praserve the vines from further attacks.

Mr. Crabh was unable to accompany me, but Mr. Wheeler and myself, on the sixteenth instant, examined carefully the vines treated, together with those left untreated in Mr. Hagen's vineyard, and could observe no difference in favor of the remedy. The vines were young, of only s few years planting. The roots of many of those treated we dug up, and they revealed the presence of a multitude of insects actively engaged with their work of destruction, their damage plainly evidenced by the swollen roots, rotten fibers, and nodosities. All of the plants exhibited a languishing appearance in the foliage, and proved unsatisfactory in other respects.

It will be remembered that exhaustive experiments were conducted by this Board with the same remedy, in Sonoma and elsewhere in 1885 and later, with results identical with those here noted and reported; and although the Board was satisfied at the time as to the inefficiency of the remedy, this committee was appointed and attention was again called to the matter at the solicitation of the inventor of the 1cmcdy.

We are now able to confirm the results announced some years since as to the total inefficiency of the so-called remedy.

OTHER OBSERVATIONS ON RESISTANT VINES.

A few Legoir vines were found apart from the treated spot, but on similar soil and with other conditions equal. These, though not treated with any remedy, exhibited a vigorous growth, notwithstanding the presence of the few phylloxera which we found on their roots.

Riparias, also nutreated, were found on the same ground; they showed a small growth, though the roots were free from phylloxera or nodosities. The Californica had been tried, too, but they did not appear healthy or vigorous, and the roots were found infested, very knotty, and bad.

While visiting Mr. Hagen's vineyard, we were led to examine an old wild vine-V. californica, which appeared like one in fested with phylloxera. This snrmise prov-

tute of healthy fibers, and the old roots, made from other portions of the State, not where not already rotted, were actively crowded with the dreaded peats. This vine was large and old, growing in its native soil, and that the rich mould of a creek hottom. The canyon wherein it grew was some distance from the nearest growing infested viniferus, and it seemed that the disease must have come to the wild vine through the winged form.

The Commission has often sought for evidences of phylloxera on our wild vinea in their native State, but up to this time none have been found, this being the first case of the kind discovered.

Yours very respectfully,

CHARLES KRUG. Chairman Committee.

#### GRAPES FOR SHIPMENT.

Toe yearly increasing sales of California fruit in Eastern markets are siguificant in their relation to the future history of the fruit-growing industry of the State. By a careful examination of the facts before him, the practical fruit-grower is enabled to grapple to a better advantage with the allimportant problem of what to grow. If the increasing demand for California fruit, accompanied by a corresponding increase in the facilities for supplying that demand is not aufficiently significant to warrant an increased attention to that particular branch of the fruit industry, then the decrease in the price paid for wine grapes is not indicative of production far in excess of the marketing facilities. The farmers of this county have heretofore reposed all confidence in the capacity of their vineyards to yield them a profitable revenue, but the experience of the past two years has done much to bring this subject into question. At the present price paid for grapes the economy of the farm is poorly subserved. The land does not yield commensurately with its worth, and a doubt is suggested as to the expediency of maintaining so many vines. Some of the vine-growers recommend the cultivation of more table grapes of the choicest varieties. The question, then, suggested, is what shall be done with the table grapes after they are grown? An answer is to be found in the fact that a number of carloads of grapes, already contracted for, will be shipped East from here this season. It may also be mentioned a Vacaville company had agents in the county this summer, with a view to contract ing for several carloads of table grapes for shipment East. But they were not to be found and no contracts were made. The farmer, when advised to cultivate an acre or two of choice table grapes, asks where he can find a market for them. No one in the county is engaged in that particular branch of the industry. He is right if he refers to any special traffic in the finer varieties of grapes. No firm has, as yet, engaged extensively in shipping fruit of any kind. But the fact that shippers from other localities were anxious to contract Tokays and Muscats at \$25 a ton in carload lots, is proof sufficient that were the grapes accessible, a ready market could have been found for them. Not that there are not a sufficient quantity of table grapes grown in the county to fill several carloads -trainloads possibly-but they are so widely distributed throughout the county that a carload could not be loaded within the time prescribed within the eafety of the frnit-one week. When the viue and fruit

more fortunate in their railroad facilities, he reasonably asks himself and his neighbor why they should be denied such advautages? And his neighbor asks why? The solution of the question devolves upon those whose interests are involved .-- Ex.

#### VINEYARDS OF NAPA,

The St. Helena Star has been making the rounds of the vineyards in the surrounding districts. From a number of reports we gleau the following: The Drew Vineyard has experienced little injury from the hot weather and subsequent rain, consequently there will be a good erop. Mr. Groezingin, who has just returned from a trip to Europe, has just hegun his winemaking operations fore part of last week. He has not suffered much by the sun and he does not anticipate much loss from the rain. He will ship five carloads of wine this week to New York. He is buying some grapes, but is particular that they are in a healthy and sound condition. Here we find one of the finest wide cellars in Napa County, everything being clean and nicely appointed throughout, The huilding is lit up by gasoline. The gentleman has, also, one of the largest and handsomest residences in Napa county.

Mr. H. A Pellet has increased his cellar capacity this year some 20,000 gallons, and has been engaged three weeks in making wire, and expects to make 20,000 gallons for himself, besides about 10,000 gallons for Mr. Carver. His crop will fall short 20 per cent, on what he expected earlier in the season. His Zinfandel has been a'little rebellious in fermentation, but hy proper care, he got them through all right, thus far. We were shown several tanks that were crushed on the 15th and 16th, which has gone through, and were perfectly dry. Everything in his cellar is nicely arranged, with an eye to convenience and cleanliness. He says the cool spell was very beneficial, especially in the way of fermentation.

In regard to the total yield, it has been greatly reduced. Up to the beginning of June the grape crop promised exceedingly well, only a few vineyards having suffered by the frost. During June the coulure, or falling through, effected the vines to some extent, and in July and August the excessive heat caused considerable damage. The late rains seem to have been the stunning blow, and the grapes are rotting at an alarming rate in many places, especially where the land is very rich and the foliage heavy, which prevents the sun from drying the soil. J. McIntyre of Oakville, states that he will be able to pick but a very small portion of his Ziufandel grapes, and J H. McCord will lose between fifty and sixty tons. Mr. Krug will also be a very heavy loser by this rot. These are only a few instances which came under our notice, but there is no disputing the fact the damage is widespread and our winemen are much alarmed over the state of affairs. The grapes on the hillsides and on poor land seem to have escaped, The general supposition now prevails that the yield this year will not reach 15,000,000 gallons.

#### YOLO RAISIN INDUSTRY.

To an Eastern man a description of the wooderful productiveness of the Yolo county vineyards, sounds like a fairy tale When we tell him of plucking bunches of grapes that contain 700 to 800 berries, and ed correct, for the roots were found desti- grower considers the large fruit shipments of berries that weigh at the rate of 50 to 60

to the pound, and of five year old vines that produce upward of 100 pounds each, the Eastern shake's his head incredulously, and remark's "that sounds like the pyperbole indulged in by the Los Angeles real estate dealer when advertising some cactus desert for colony purposes" Yet these sre not fairy tales, nor are they exaggerations of the plain truth. At the invitation of Mr. D. A. Jacksou, one of Yolo county's most industrious and painstaken yineyardista, we took a ride through his own vineyard, and those of his neighbora whose grape crop he has purchased, and on this trip we saw with our own eyes and tested with accurate scales of the truth of the statements made above. Mr. Jeckson's vineyard is small, but it is one of the most profitable in proportion to its acreage of any in the country. He has purchased from neighbors about 100 aeres of raisin grapes of the muscstel and Sultana varieties, tHe has just finished picking of the crop of Sultanaa in Thomas Riders vineyard. He bought the grapes on the vines and after picking and weighiug them, he found that he would have to pay Mr. Rider for 71/2 tons per scre, which at \$15 per ton would net Mr. Rider \$110 per acre. This crop was !produced without irrigation. The process of curing the raisins consists in dipping the grapes in a solution of carbonate of soda and a small per cent of cottonseed oil; then placing them on trays in the sun to dry. In four or five days the grapes are turned on the trays, and in about ten or twelve days they are ready to be put into the "sweat box" preparatory to being packed for market. Mr. Jackson employa none but white labor, and pays \$1.50 per day. In his long experience in the raisin business he has never employed a chinaman. He has already sold three car loads of raisins to be delivered whithin 20 days, receiving therefore quits an advance over last year's prices. In the near future we hope to take a trip through some of the larger vineyards, and give an account of what we see occurring there. Yolo county will some day compete with Fresno for the honor of being the banner raisin county in the world. She now stands abreast of Fresno in the quality of her raisins, and may yet over take her in quantity as well—Ex.

#### Unfermented Wine.

This receips is from the Union Signal: Pick the grapes from the stem and wash. Cook with water as for jelly, until aoft. Strain through a flannel bag. To one quart of juice add three-quarters of a pound of granulated augar. Let the juice boil and skim it, then put in the sugar and cook until dissolved. Put boiling hot in self-sealing jars or bottles corked and

Another manner for making unfermented wine, sweetened to suit those who prefer it, as follows: Mash the grapes and preas ont the juice. Before boiling it, sweeten to the extent desired with best white sugar; strain carefully; fill the bottles and seat them upon a wooden foundation in a boiler; surround them with water up to the necks; bring to a boil and boil ten minutes; then from one of the bottles fill all the rest, to make up loss by evaporation, and cork them while hot; after corking, seal the corks, the sulphurous acid gas, impregnating the juices, will be volatilized and driven off by the hest. By putting up the wine in this way, it can be kept too years or more.

Subscribe for the MERCHANT.

#### MEANS OF FOREFELLING PROST.

(Correspondence of Vit cultural Commissioner Charles Krug.)

With a view to providing facilities for enticipating frost and averting the damage as we may sometimes do, by means com monly known, I have thought it advisable to append the following, which has provided a grain of comfort to me and others who have suffered somewhat during the present ecason. The letter explains itself so lucidly as to call for no comment from me, and I desire to express to Mr. Maxfield particular obligation for his promptness and courtesy. CHARLES KSUO.

Sional Office, Was Department, San Francisco, March 22, 1887. MR. KBUG, St. Helena, Cal:

DEAS SIR: I am pleased to inclose herewith instructions for the use of the wet and dry bulb thermometers, and a dew point table, which I hope will prove satisfactory to you in foretelling frost,

Very respecifully yours, J. E. MARPIELD. Second Lientenant, Signal Corps, U. S. A.

TOR WET AND DRY BULB HYGROMEYER.

To kyep this instrument in working order, one or two things require special The thermometers most be alike, for if one is filled with mercury, and the other with spirits, or if they contain different quantities of the same fluid, the readings will be vitiat d. All starch, or foreign matter, should be washed out of the thin muslin covering and thin cotton wicking. The water used should be purefor if lime or other salts he dissolved in it, the muslin will econ be coated with a calcerous or other incrnstation. Rain or distilled water should be need. The muslin ought to be changed when covered with dust or other impurities, and care should be taken not to touch the musliu with the fingers, otherwise it will get slightly greased and capillary attraction will be thereby interfered with. The bulbs of the thermometers should be made one and one-half or two inches below the scale. The thermometers should also be a little apart from eech other, and the vessel containing the water be as far removed as possible from the dry-bulb. The thermometer should be exposed to the air where the circulation is nnobstructed. They should face the north. and should always be in the shade. They should be removed at least a foot from the wall of any building, and should be about ten feet from the ground. They should be protected against the heat reflected by neighboring objects, such as buildings or a sandy soil, and they should be sheltered from the rain. If the dry-hulb should become moistened by rain, the bulb should be carefully dried about five minutes before making the observation; since drope of wster, by their evaporation, would lower the temperature of the mercury in the bulh.

The dew-point can readily be determined by the following rule and table:

RULE -- Subtract the readings of the wetbulb from that of the dry-bulh; opposite which, in the column that is marked at the top, with the difference between the wet end dry-bulb, is to he found the dew-point sought.

Difference of depression of wet-bulb .... 79

Looking for the temperature of 47° on the left of the table wa find in the column under the 7° the figure 28, which is the dew-point,

Whenever the dew-point in evening is bave made for themselves an unlimited and below 320, expect a frost before morning if sky is clear and there is not much wind.

#### THE GRAPE CROP

The grape crop and the facilities for marketing the same, says the Sonoma Democrat, are subjects which can not well he considered separately at this season of the year. Speculations as to the most feasible and practical methods for disposing of the grape crop to the greatest possible advantage, are all right in their place, and may attract a share of the wive-growers' attention when the season is early and the fruit is in the embryo, but when the crop has matured and hangs in bursting clusters on the prolific stalk, there is no time to be lost in idle theorizing. The exigence s of the time are imperative. The crop will not wait until a conclusion is arrived at concerning its disposal. If there are no market facilities at hand the wine-grower has either to stand by and see the product of his industry and the fertile land in which his all is invested, decay on the vines, or introduce some decisive means for averting the loss threatened. The condition of the crop in this county is not such as to conduce greatly to the vlue-growers' peace of mind. In some parts of the county the intense heat has decreased the value of the crop by one-third. The quality of the nninjured grapes, however, is up to the average in sacharine and other essential properties. It is not so much the damage snstained by the crop as the inadequate facili ties for its disposal, which is causing the viue-growers so much concern. It is nuderstood that some of the wineries are able to buy but a very limited quantity of grapes, thereby necessitating the finding of a market elsewhere. The report comes from some of the vineyards in the northern part of the county that the crop is not worth picking. The price paid will not compensate for its cultivation. The condition of atlairs is, in all probability, somewhat exaggerated, if not actually misstated. No each complaint has, as yet, been heard in this part of the county, notwithstanding the small price offered by the wineries. It is not so many years ago that the products of our vineyards brought the producer \$25 a tou. The same crops, equal in quality, now bring their producer \$8 and \$12-the choicest varieties perhaps as high as \$15. The problem evolved from the disparity existing between the prices of to-day and of a few years ago, must be subjected for its solution to an application of the laws regulating supply and demand. And yet the solution will be unsetisfactory unless considered coincidently with the capacity of the soil to produce other growths of greater profit to the producer. The wisest of our vinc-growers are at hand with a remedy, The hill and mountain land, say they, should be devoted exclusively to the cultivation of the vine, while the valley and lower lands should be apportioned to the fruit tree and berry. While the low land will produce a fine quality of grape, it is equally as certain that the hill land will produce a finer quality of grape. No one doubts the adaptability of the low lands to the prolific and profitable cultivation of cereals, or to the healthful and fructifying growth of the apple, peach or plum. Among the first in this vicinity to make a practical demonstration of theas generally conceded facts was the firm of Lay, Clark & Co. By the exclusive manufacture of

profitable market, both at home and abroad. Near Sonoma the vine-growers have an example in the firm of Kohbr & Frohling, and at Cloverdale in the Swiss-Italian colony. A great deal of thought might be expended in amplification of the present viticultural problem and its solution, but the general and initial facts connected therewith are sufficiently obvious to the thoughtful vine-grower to invite his reflec

#### IN TIMES OF YORK

The Rheingager Wein-blatt in an article on wine consumption in Central Europe, in times of yore says.

The Teutons as a people long despised wine and adhered to their beer, even long after they had conquered the Rhenish and Moselle provinces, where their predecessors, the Roman-, had spread viticulture only the richer among them gradually took to Southern wines. The more general consumption of wines in those regions was indeed, exclusively due to the care which the monks bestowed on win -growing and making, and they succeeded so well in their endeavors and during the XVth century wine had virtually supersed d beer. The mest remarkable fact in councetion with the culture of wines was that it rapidly spread to regions in the north, where it has since been abandoned for many ceuturies past.

Thus, Bishop Beuno of Meissen planted the first vine in Thuringia in 1073, and in 1128 Bishop Otto von Bamberg carried a whole cask full of stalks to Pomerania and plauted them. All the way beyond Konigsberg there was viticulture, even near Tilsit, due to the initiative of the warlike German order. The wine made was, of course, little better than vinegar, even worse in many localities; hence the famous " Dreimmænner-wine" of Potsdam and Greneberg in Lansatin, where it required, so they say, three stout-fisted men to hold the uufortunate victim that had imbibed it. In Mecklenburg, near a village called Plau, a wine was grown as late as the XVIth cennry so sour that naughty children were threatened with a glass of it. In Southern Germany, especially in Anstria, Bavaria and Franconia, and on the banks of the Upper Rhine, wine almost altogether superseded beer, on account of its extreme cheapness. In Wurtemburg, in 1426, the pail of old wine was selling for 13 kreuzers about 5 cents of our money), and in 1184 an egg would buy a measure of wine. One of the noblemen invited his peasants to visit his cellars and drink to their heart's content, and the fines he imposed upon them for excesses among them during the carousal amounted to more than the wine would have brought in the open market. The years 1420 and 1429 were memoracle for their abundance of wine, which was such that a man could get intoxicated on what half a cent of our money procured him. The cement used in huilding the cathredrals of Vienna and Ulm, during the years named, tradition reports was moistened with wine. The cheapness was, of course, a relative one, ittle money then commanding any amount of the necessaries of life, till the Spanish galloens returned from Mexico and Peru with their treasures of gold and silver, causing a gradual rise of all commodities.

From the moment the value of wine appreciated under these influences, adulterawine from none but mountain grapes, they tion began to flourish. In the XVIth cen-

tury the first genuine spirits of wine began to be made. The brandy then distilled was at first only used for medical purposes. Gthers insist that as early as the XIVth century the monk Tully and Arnold de Villeneuve distilled in France the first brandy. Gradually beer, probably in consequence of wine adulteration, began to reconquer the territory it had lost. So much care was bestowed on brewing a good article that certain kinds of beer soon became celebrated in Northern Germany; for example, Hamburg, Z rbst and Naumberg beers, and the renowned "Mumme" of Branswick. In the XVth century flamburg "Branhahn" got to be esteemed as highly as Southern wines, and its intoxicating effect is said to have been as great.

The wine-growing populatione soon began to clamor against the beer invasion. The municipality of Rentlingen in Wartemburg simply suppressed the breweries to please the owners of suirounding vinevards.

Extraordinary were the individual capsbilities of imbibing wine during the sixteenth century. Thus, on the occasion of the wedding of the Prince of Orange with the Saxonian Princess Anna, in 1561, 3600 pails and 1000 casks of common wine were drank during the six days the festivities lasted. When, in 1511, Dake Ulrich of Wartemburg got married, there were consumed by 7000 invited guests during the clebration of the event, lasting a couple of days, 736 head of cattle and 1000 calves; while night and day one fountain spouted forth red wine and another white. The nst Count of Gorz, a confirmed drunkard, used to get out of bed at night and compel his children to do as he did, and drink

As a sort of respect, expressed either privately or publicly to casual guests, they were urged to freely partake of beer and wine. A king, honoring with his presence the ancient Hansestic city of Lubeck, was tendered by city usage 4 pails of wine and 16 measures daily, as long as he staid within the walls of the city; a queen received 3 pails and 8 measures; an elector got 12 measures; a duke 8; a count or bishop 4; a countess or knight, an abbot, burgomaster, or doctor of a university only received 2 measures, and a municipal clerk 1. All these wines were taken from the best the municipal cellar contained. Annually the Hanse towns sent a present in the shape of select win s to courts near hy in erder to conciliate them.

The Hanse towns had their aunual meeting of delegates, holding a sort of congress of their own, and at the session of the same in 1417 steps were, for the first time. publicly taken to suppress adulteration of wines, if possible, by decree, orders being sent to that effect to the Hanse towns, Cologne, Binger, Frankfort and Strasbonrg. At Ulm all barkeepers were compelled to swear that they abstained from all sophistication of any kind of their wines, by order of the city council of 1487. At Stuttgart, as late as 1706, a wine adulterator by the name of Erni was solemnly beheaded in the public square, some persons who partook of his mixtures having

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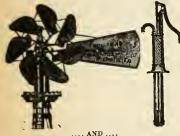
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It is hoped that the foregoing statements will indicate that the time which has elapsed since appropriations became available under the Hatch Act, has been diligently utilized.

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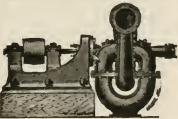
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VOL. XXI, NO. 2.

SAN FRANCISCO, OCTOBER 12, 1888.

PRICE 15 CENTS

#### REPORT OF C. J. WETMORE,

Secretary Board of State Viticultural Commissioners

To the Board of State

l'itienttarat Commissioners :

GENTLEMEN: I respectfully report that the duties devolving upon the office of Secretary for the past year have been performed to the best of my ability.

A great many letters have been received from parties seeking information respecting all branches of viticulture, and all of them have been promptly answered or referred to responsible parties who could auswer there. As the large planting of vines has been checked for the present, more letters were received from parties wishing to snow how they could dispose of their profucts at a profit than fram parties asking nformation as to what vari-ties of vines hey should plant. It is the wish of the unjerity of producers that this Commission will devise some plan to help them find a market for their products.

The demand for the reports of the Comnission has been a constant one. The suply of Appendices I. II, III to the Second annual Report of the Chief Executive Offier is nearly exhausted, and I would recmmend that a new edition be published. s the information contained in them is so aluable that they will be always in deannd. A great many applications for reerts have been received from the Eastern tates, Mexico, Europe, and Australia. In ustralia the reports have been greatly aprecinted, and I have just received word nat a Board of Viticulture in Victoria has cen brought into existence by that Govrument in a similar way that this Board as created by our Legislature.

During the past year Chief Executive fficer Wheeler has instituted a new plan sending out appendices to his annual reort on subjects of immediate importance vineyardists. The reports of the Comissioners, as fast as received, were also ablished and sent out. The mailing of so any pamphlets has greatly increased the ork of this office, as our mailing list has creased during the year fully one third, d now contains over six thousand names. I have devoted considerable time to the mpiling of a new directory of grape owers and wine makers of California,

and as soon as completed will have it published for distribution. I will then endeavor to obtain the acreage in vines and varieties plauted, from each person whose name will appear in the directory,

The gathering of accurate statistics is a very difficult one, owing to the State being so large, and the unwillingness of so many vineyardists to give the information asked for. During the year 1886, Mr. F. W. Morse, of the State University, was employed by this Commission to gather viticultural statistics. After working several months he obtained very complete statistics from some counties, while from others he obtained but little. During the past year, by order of this Board, each Commissioner was allowed to expend a sum not to exceed \$150, in collecting statistics for his annual report. Some of them used this amount, or part of it, and so added greatly to our statistical information.

In order to obtain accurate information respecting the crop of 1887 I sent out in July a circular to our Inspectors and other persons throughout the State, asking them to answer the following questions:

First-What is the estimated damage to the grape crop by frost?

Second-What is the estimated damage to the grape crop by coulure?

Third-What is the loss by disease or other cause (oaming the disease) ?

Fourth-llow will this year's crop in your vicinity compare with that of 1886, new vineyards included?

Fifth-What varieties will produce a full crop?

Sixth-What varieties will produce a light crop, and why?

To these circulars I received, by August first, one hundred and fifty-one replies, and was able then to estimate the wine crop of 1557 at sixteen million gallons, and the raisin crop at seven hundred and fifty thousand box s. At the time I made that estimate I was criticised severely by one newspaper for having 'put the crop so low, but the final result of the vintage did not vary very much from those figures. shall follow the same plan in the future, and hope by the first of August of each year to be able to give an accurate estimate of that year's crop.

After the passage of the State Pure Wine Bill the work of this office was materially adulterations. All of the samples, upon receipt, were numbered, and a record of the number, the sender's name, and a description of the wine was kept in this of-The samples were then sent to Prof. W. B. Rising, State Analyst. Upon receipt of the analysis a copy of it was sent to the party sending the sample, and a duplicate of it retained in this office.

#### EXPERIMENTAL CELLAR,

At the session of the Legislature in 1885 the following appropriation bill was passed:

For viticultural, experimental, scientific, and analytical work, including apparatus and suitable accommodations for the same. under control of the Board of Regents of the State University and the Board of State Viticultural Commissioners, ten thousand dollars.

This appropriation gave this Commission the use of \$2,500 for the year July I, 1885, to July 1, 1886, and \$2,500 for the year July 1, 1886, to July 1, 1887.

At the same session of the Legislature the office of State Analyst was created, and Professor W. B. Rising, of the State University, was appointed State Analyst. As no appropriation was made for carrying on the work of the State Analyst, the Commissioners decided that the best use they could make of the above money was to carry on analytical work at the office of the State Analyst, and to establish an experimental cellar in this city.

To carry on the analytical work required by this Board the State Analyst was compelled to employ an assistant, and the Board agreed to pay the salary of such assistant, and also to purchase such apparatus as was necessary.

In this city a cellar, situated on the corner of Clay and Leidesdorff Streets, was rented, in which the Commission could store samples of wines from different portions of the State, and also the samples made by this Commission. The cellar was then fitted up, and a committee consisting of Messrs, De Turk, Wetmore, and Krug was appointed to look after the interests of said cellar, and to select suitable wines to be stored in it.

A great many vineyardists throughout the State have of late years been planting new varieties of grapes in order to see the kind of wine that can be produced from them. Such samples of wines have, in sult was a few gallons of excellent brandy

wine in the cellar, or the vinevardist has been financially forced to sell them, and the identity of the wine has therefore become lost. The committee, knowing the value of having such samples stored in this city, where the temperature is uniform throughoul the whole year, selected from different portions of the State such samples as they thought would be of interest to keep, in order to show what auch wines would be when three, four, or five years old. They obtained a barrel each of Cabernet and Verdot, Cabernet and Merlot, Cabernet and Tannat, Ta anat, Bitte Sprah, Mondeuse, Meunier, Mataro, Carignan, Beclan, Zinfandel, Chanche Voir, Petite Pinet, Sanbrne, Johannisherg Riesling, Franken Riesling, Semillon, Chauche Gris, Fecher Szapos, brandy, and port. Most of the wines are of the vintage of 1856, and at the present time are in good condition and improving well. As soon as the wines are ripe enough they will be clarified and put into bottlea

#### SHEBBY

To test the values of certain varieties of grapes for sherry, a small room was fitted up, and heated by means of a gas stove, and temperature kept up to 112 Fahr. luto this room small samples of wines wero put and kept there for three mouths. The varieties put in were Golden Chasseless, Boat, Sanvignon Vert, Verdelho, and West's White Prolific. In the cellar some Golden Chasselus wine was put into barrels, and left to make aherry by the natural way. Being a cool cellar, it has developed very slowly.

The looking after the samples in the cel. lar, such as racking, ulling, etc., has been a portion of my work, and I have given it all the time I could spare from my duties in this office. To do the rough work, I have employed a man at odd times, paying him \$2 per day for the time he worked. The expenses, therefore, of taking care of the samples has not been very heavy, being \$25 per mouth for rent of cellar, and from \$6 to \$12 per month for labor.

#### BRANDY.

To test the value of the Folle Blancho grape for brandy purposes, I obtained two hundred pounds of fresh grapes from Mr. S. Osterhout, of Livermore, and fermented them in the back room of the office, and afterward distilled the wine in a small still that belongs to this Commission. The reincreased, owing to the great number of them. Such samples of wines have, in sult was a few gallons of excellent brandy wine samples received to be analyzed for most cases, been sold with the balance of of true cognac type, which is now pronounced by all brandy experts as equal to the imported cognac of the same age. The Folia Blanche grape can therefore be recommended to all parties wishing to plant a vineyard for the purpose of making a fine brandy of cognac typs.

#### LIDRARY.

I have just completed a catalogue of the books in our library, which same I hand in to be published with this report.

Our library now contains four hundred and twenty-one volumes, consisting of nearly all of the standard works on viticulture and viniculture in the French and English languages. A number of German books will soon be added. No one has heen permitted to take books from the office, but all persons have been cordially invited to visit our rooms and make use of the library during office hours. A great many persons, during the past year, have availed themselves of this privivilege.

I also hand in my report on finance, and a copy of the minutes of the meetings held during the year.

Respectfully submitted.

CLARENCE J. WETMORE, Secretary.

### RAISINS IN NEW MEXICO.

H. B. Whiting, writing in the Daily Citizen, says: All of the raisins used in New Mexico, Colorado and Texas are imported; mostly from California.

So profitable an industry in California, is almost wholly neglected in the valley of the Rio Grande, in New Mexico.

We have devoted considerable study and time to this subject for years; have corresponded with a number of the reisin growers of the Pacific Coast, and have seen for ourselves to some extent. From information gained, from a knowledge of the climate of this valley, acquired by a constant residence in it for over twenty years, and from the successful experiments made in different localities there in the growing of the Muscats, we are satisfied, beyond any reasonable doubt, that the culture of these raisin grapes may be made highly profitable in any portion of the valley, from the northern line of this (Bernalillo) county on the north, to the Texas line on the south.

We wish in this article to call the special attention of capitalists seeking secure and profitable investments, and people of moderate means, and all interested in the development of this Valley Hermosa, to the profit of the industry of which we write, and the advantage we shall have in its prosecution, over the most favored raisin districts of the "Golden State."

At Riverside, Boyd & Davine, prominent raisin packers and dealers, lately purchased of S. C. Evaus his crop of Muscat grapes on about 100 acres, for the sum of \$10,000 on the vine. To raise these grapes it has cost Mr. Evans about \$25 per acre, per year, for water, care and cultivation, the sale thus leaving him \$75 net per acre, for this year's crop. The price paid was based to some extent, on the yield of the two previous years, which was something over 8,000 boxes. This year it will be larger.

Mr. Evans says that after examing his vineyard, and wishing to avoid the trouble and annoyance of picking, curing and packing, he made up his mind to sell the crop, if possible, for \$10,000 on the vine; but if no purchaser took him at this price, he would sell at the best offer per ton on the vine. He submitted his proposal to the several buyers and received bids at from Our vineyards may not yield as bounti- is often in such proportions that the wine England with 4 per ceases to be anything like the juice of the lands with 7 per cent. several buyers and received bids at from

closed with the dealers named, at the price mentioned, on the vine, for the lat.

Now with this reliable statement of facts, as to what a raisia vineyard will give in Southern California, at five years'-\$100 gress, or \$75 net per acre-can any person give us one well founded reason why as good results should not be attained in the Rio Grande Valley in New Mexico?

The San Francisco MERCHANT says that land at Riverside "can yet be purchased at \$250 per acre!"

As good land can be purchased to-day in this valley, away from the large towns and near a trunk line of railroad, for \$25 per

Allowing, for the sake of argument, what Californians claim, viz: 'That their vincyards become profitable earlier than would ours; yet with this against us, our vineyards would give some returns the third year, and at the end of the fifth year we should have for the third, fourth and fifth years a grosa product of the value of say \$20 per acre, calculating \$25 for the third year, \$75 for the fourth and \$100 for the fifth. The expenses we sum up as follows: Original cost of land, \$25; preparing soil, fencing, planting, water, etc., first year \$25; expenses second year \$12; third year \$15; fourth year \$20; and fitth year \$25, a total of \$122, giving us our land clear, and a surplus of say \$75 per acre to cover taxes and extraordinary expenses. From this time on our vineyard should give us a net profit per acre of \$75 per annum.

At the end of the fifth year what will be the value of our raisin vineyard in the valley of the Rio Grande?

At eight feet apart, (and vines for facility of cultivation, and other good reasons, should not be set closer) we have 680 vines to the acra. Should not 680 Muscat vines at five years of age and in good bearing, be worth \$680, or at the rate of \$1.00 per vine? The vineyard certainly would readily sell for the half of that sum-or, say \$340 per acre for the land including the vines. The smaller valuation would pay su income of say 22 per cent on such valuation. Before the advent of railroads in New Mexico, and before any one here but the most sanguine expected them in less than a decade or two, parties aclling vineyards of the Mission grape-sold land and all at the rate of one dollar per vine, and vineyards in those days were much more closely planted than are those that have been planted within the last eight years. Many of the old vineyards had as high as 1,000 to 2,000 vines to the acre, and of these there are still some in

In addition to the cheapness of our valley lands, as compared with those of Riverside, we have cheaper water, cheaper unskilled labor, and a market at home, and also in Colorado, Texas and Kansas, at our very doors, for all the raisins wa could raise for many years, were we to hegin planting at ence. With our own and the markets of the states usmed supplied, we still have the great advantage over the raisin districts of California, of being nearly 1,000 miles nearer than they to the eastern markets. We have still another advantage over the California coast counties where so many raisin grapes are grown, Our climate in the Rio Grande during the late summer and early autumn is usually dry. There they are forced to cure their raisins by artificial means, or transport their grapes to the hot, dry valleys of the interior.

they will. They may not come as quickly into bearing. We have also the extra exprotecting the vines in winter, which will in time be proved to be unnecessary in many parts of the valley.

We hope to see by the coming spring, hundreds of acres of the choicest lands of the vailey of the Rio Grande properly prepared and planted to the raisin grapes. The Muscat of Alexandria and the Muscat Gordo Blanco are the varieties grown from which the choice raisins are made in California. If you plant either you have a good rasia grape, and if you plant both you will not go amiss. It would require more of an expert than we profess to be to point out the difference in the two varieties, if there is any. Many Californians inform us that there is no difference.

Many not conversant with the capabilities of our grand valley, may consider the fig ures we give in its favor, exaggerated and our hopes too sanguine. We do not thin so, but have honestly and fairly stated our convictions and opinions derived from much study of the subject upon which we have written.

If what we here advance shall cause paple to look into and examine our statement with fairness and candor, we shall key accomplished what we started out to do: being satisfied that with investigation will come action, and raisin growing soon b come one of the great industries of Now Mexico, in this valley of the Rio Grande this valley of the "American Rhine."

#### ABOUT OLD WINES.

There is, says an exchange, probably no greater delusion in the modern gastronomic art than the notion that age enriches wine illimitably. If a three or five year wine is better than the crude juice, the process must go on forever, and the wine of 500 years must be the veritable nectar of the gods. It is a myth of the poets. Wine is an organic product, and to every organic there is the immutable law of growth and decay, life and death. There is no exemp tion. Dosing with foreign substance, forrification with brandies and alcohol, care of temperature and other devices may stave off the fatal decline, but for only a little. An item is going the rounds of the press that the wines of the late king of Bavaria, some of them a century old, have been bought by English speculators at enormous prices to resell to English gourmets. Upon this remarks the writer in The Paris Register:

What the item says about the wines of the excellent vintages from I822 to 1884 is doubtless true, and possibly it may be true of the Johannisherg of 1811, but I have no hesitation in doubting that there is any truth or goodness whatever in the vintages of 1540, 1640 and 1731.

Now, what are the real facts about wines as old as the above? After fermentation, which is a process of decay, wine will deteriorate unless preventive measures are taken, such as keeping the wine in a cool or even temperature, the addition of alcohol, boiling (the vinum coctum of the Romans and the vino cotto of modern Italians), and the complete exclusion of the ordinary atmosphere by good corks, by scaling wax or by oil. The most common method for preserving wine in modern times is by adding alcohol and by corking and sealing. The alcohol in wines prepared for England is often in such proportions that the wine

same culture as those receive, we believe graps, and too often is as strong as a glass of brandy and water.

> In 1871 Mr. Rabello, the Brazilian consul at Oporto, made me a present of several bettles of port wine of the vintage of 1793. Mr. Rabello had heard of the bresking up of an old Pertuguese family where, from father to son, a certain number of bottles of famous vintages had been handed down. I sent several of these aged wines to the late William Cullen Bryant, remarking that the bottle of 1793 was, according to the encyclopedia, of his own age; but the poet, in acknowledging the reception of the wind, stated that it was his senior, and that he should look up to it with reverence. When I came to open my bottle of 1793, I found it (which once had the dark red of port) about the color of water, and the most insipid stuff. Up to the beginning of this century it was not the custom in any part of Europe to put a lot of fiery alcohol into any kind of wine, and when they did add spirit to port wine it was a little of that which had been distilled from port. This 1793 wine had probably thus been treated, out with all the sealing wax, and a once good cork, the beverage was as unvitous and tasteless as if it had been water dipped in from a bond and bottied. Therefore, I anht if the Bavarian wines, so sedulously dvertis d in England as those of 1540, 1640 and 1731 have any virtue in them, even if they be genuine wines of those lates.

The ancients, having no distilled spirits, were wanting in one of the great remedies which prevent wines from decaying or turning to vinegar. Homer represents old Nestor, in the "Odyssey," drinking tenyear-old wine. Athenæus incidentally mentions a wine kept sixteen years; but, in the days of the empire, connoisseurs considered Greek wine a perfection when six years old. Horace tells his friends, when they come to see him, that he will give them "three-year-old" wine. But the ancients evidently did keep wine, either by boiling, or by very tight corking and putting plaster upon the, corks, or by burying it, for twenty or thirty years. There is one wine jar (amphora) in the museum in situ at Pompeii, which, if the label is to ba believed, and if wine was in it at the time of the destruction, must have been over forty years old in the year 79 A. D., when Pompeii was destroyed. But we must remember that ancient wine dealers could cook up labels, and give fictitious usmes, just as well as the modern descendants of their craft

As to the wines of the ancients, I believe, in general, they were, for the upper classes, much more artificial than in this present age of adulteration, because it was a fashion for centuries to mix wines, and to flavor and drug them to such an extent that we moderns would never drink them and would not take them except as medicines. Not only were spices, fragrant roots, leaves and flowers steeped in the wine, but myrrh, cassia, nard and pepper were put in and, as if even these were not enough, flour and grated goat's milk cheese were sprinkled over the wine just before drinking.

#### Timber Countries.

Sweden is the richest timber country it Europe, 39.7 per cent of its land is covered with timber. Then follows Russia, Austria Hungary, Germany (with 25.7 per cent.) England with 4 per cent., and the Nether

#### CHAMPAGNE WINES.

#### A New an Important Discovery.

A new method of making Champagne has gart, which may have the result of revolutionizing the business and effecting a cona test of three years under the immediate supervision of the discoverer, and the Champagues of his manufacture have dready a large consistency in parts of Germedical and chemical authorities,

As is well known, Champagne is a sparkling wine produced by a special process from ordinary wines. The rapidity with which t exhibarates the blood and stimulates the aste, makes it the most popular of wines. The district in France which has given the name still produces the grape from which he most famous brands are made. The connoisseur places among the choicest wines of this sort, Veuve Cliequot, Roelerer, Mumm, Heidsick and Duc de Montebello. Large quantities of genuine and xcellent Champague are made in Germany, he manufacture beginning with the estabishment of Kessler, in Esslingen, in 1826, and now carried on by about sixty estabishments. The process of making champague was discovered in France, and made public in 1718 with the statement that it and been known for twenty years. It was oopularly called "Devit's Wine" or "Cork Forcer," and its preparation supposed to be effected with the aid of magic.

The production of champagne by the old nethod requires a tedious and skillful process. In the late spring the process begins with the wine of the previous fall. Genline champagne could, until now, only be nade out of young wines in which living terms of fermentation still exist. These germs are essential. The bottle of fermentd wine is uncorked and sugar to the amount of about two per cent is put in, reat care being taken in the exac quantity. The bottle is then recorked. The germs of ermentation, or wine fungus, still remainug over from the previous fermentation assert themselves, and acting upon the tugar produce earbonic acid, which is the markling element or gas. After this proess has been fully wrought, the contents of the bottle present a thick and troubled appearance, which is due to the collection I deposit on the walls of the bottle, and he bext stage is to clarify them. This is a ong and delicate process. Each bottle must be handled separately from a hunared to two hundred times, and that all telies of the disturbing material may be cmoved from the glass to which it clings, annin and alum are inj cted. The bottle sinclined a little on one side, and the inblination is increased gradually nutil it is stood up with its neck downwrrd, the object being to draw all the deposit to the cork. in the course of this process fifteen per bent, and often as many as twenty-five per ent, of the bottles burst with the intense ressure, and the coatents are a total loss. When the deposit has all been precipitated o the cork, the last stage in the process of nauufacture occurs. The cork with the posit is removed and the inside walls of he bottle's neck cleansed the vacuum is itled with a solution of sugar, Cognac and trong wine and the bottle recorked. It is atem of expense is eliminated. hen ready for the mark t. The actual Some of the foremost medical and chemi- a large portion of grapes gathered will be to a baptism into a new religiou,

manufacture consumes from seven to twelve months and requires much labor and space.

For one hundred and seventy years no essential modification of the original mode been discovered here in the city of Statt- of manufacture had been introduced until the recent discovery of Mr. Adolph Reihlen. He has discovered how to make genuine siderable reduction in the price to the con- champagne from wine in which no germs samer. The process has been subjected to of fermentation remain, and has not only reduced the time required for the manufactare from eight months to forty hours, but eliminated entirely the introduction of foreign materials, such as Cognac, taunin ay where they have become known, and and alum. The essential thing in the manutheir merit has been recognized by high facture of champagns is the production of carbonic acid from within the bottle by a second process of fermentation brought about by the action of the termenting germs upon the sngar. All chemists had considered it impossible to make genuine chamsystem, together with its delicately sweet pague from other than young wines, (that is, wines less than a year old) on the ground that there alone live fermenting germa still exist. These germs are essential to the production of the ganuine article. Mr. Reihlen's discovery does not do away with the germs, but makes champagne out of old wine where no such germs exist by the infusion of germs. The discovery was at first treated with incredulity in all quarters, if not ridicule, as a thing impossible.

> Mr. Reihlen's discovery and invention were after this wise: In 1833, Schwann discovered that the germs or fungi, which are the active agents in fermentation, exist within the lees or deposit of the wine, are distinct substances, are plants of the nuture of a parasite, of the shape of an egg, and in size infinitely small. The old principle was: No lees or deposit, no fermentation.

Mr Reihlen has discovered that these germs or fungi are not confined to this substance or dependent upon it for life, but exist everywhere in the vegetable world and can be easily precipitated from the air upou any vegetable fibre, as for example liven threads washed in sugar water. By the simple use of wood fibre, say sawdust and sugar, he produces fermentation, and has overthrown the theory that the deposit of fermented wine is essential to the production of the second process of fermentation, From the very important discovery, which probably has applications in other departments than the manufacture of champagne he went further to invent a simple and yet efficient machine, whereby, through the introduction of the fermenting germs and sugar, old wine is turned into champagne in a few hours. No other substances whatever are added, either to effect the change, to clarify the wine, or to give it the delicate champagne color, It is saying very little to say that to the average consamer the Reihlen champagne, or Schaumscein, as it is called in German, has the same agreeable taste and the same effect as the champagnes made by the old method, The simplicity and rapidity of the process so materially reduce the price of manufacture that the price to the consumer is very oppreciably less than champagne made by the old method

At Stuttgart it costs in the store thirty to thirty-five cents, (one mark ten plennige to one mark twenty-five pfennige) only twenty to thirty per cent more than the wine from which it is made, and one-fourth or onefifth as much as champagne of the old manufacture. The loss of bottles is completely avoided in the new mode of manufacture, and thus another very considerabla

cal experts of Germany, such as Dr. Kussmanl, of Strassburg, and Dr. von Pettenkofer, of Munich, have subject the Reihlen champagne to tests and analyses, and have declared it in print "to be composed of pure materials and to correspond in the strength of the carbonic acid to the best Freuch and German brands," and state that "materials prejudicial to the health are not used in the manufacture." It has been adopted in the hospitals of Stuttgart.

The prejudice with which al' new things have to contend has been brought to bear against the R ihlen champague. Its consumption, however, has grown with great rapidity. The first bottle was sold in 1885, and the sale the first year reached 600 bottles. During the last six mouths 10,000 bottles a mouth have been sold in Stuttgart and vicinity alone. In 1887 the monopoly for Germany was sold to a company of capitalists headed by Boehm. Works have been erected in Wachenheim near Mannheim. At first a machine was used which turned ont 100 bottles a day. In 1887 the capacity was increased to 300 bottles, in the following September to 1,000, in May 1888, to 1,500 bottles, and by the close of September the daily capacity will have been increased to 6,000 bottles. This new champagne is made from the common Rhine Neckar and other German wines. It grows better with age, and, it is asserted, loses none of its sparkling character.

Mr. Reihlen's observations were begun in 1876. He has never been a wine producer or wine dealer, but has found leisure under the great strain entailed by the management of a large augar manufacturing indastry to study the processes of nature, and to pursue chemical experiments. He is a man of wide culture, of high standing for many years in the community where his life has been speut, aud it is well known for his benevolence both in and out of Stuttgart. He is of the opinion that his invention will promote the cause of temperance by the partial substitution of a pure champague, free from spirituous ingredients, for other alcoholic beverages. He has taken out patents in all countries of the world, including three in the United States, which country he visited a number of years, ago. He has disposed of these patents in some of these lands. A few weeks ago a case of California wine reached him which in a short time was on its way back again to New York changed to champagne. The writer was told that its taste, body and sparkling quality were fully equal to tha French champagnes. It will be very surprising if some enterprising American firm does not secure the patent for the United States from the German inventor, or join him in the production of American champagnes by the new process.

Stattgart, Germany, Sept. 4, 1888.

#### WASHINGTON WINE NOTES.

F. Pohndorff & Co. in their column of "Grape and Wine Chat," in the Washington, D. C. Sunday Herald, says:

Mr. Crabb writes of the vintage : "The crop has been shortened very much by the drought and sunburn and will not be any larger than that of 1533. Two weeks of dry, hot weather late in August causes all the exposed banches of grapes to ripen prematurely, or rather to dry on the vines before they are fully ripe, and r nder them unfit for making good wine. Not only is the grape crop proper greatly lessened, but

only fit for the brandy distillery. The fact that last year the crop suffered in the same way induces the growers who can afford to do so, to hold all high-grade mature wines for higher prices. In the mean time we can report the constantly-growing popularity of our own home-grown wines. Th y are gradually but surely taking the place of more expensive and for the most part frandulent foreign wines, as well as that of both malt and distilled liquors.

It is doubtful if any law or regulation could materially change the demand or consumption of alcohol in some form. The use of beer may lessen the sale of distillates, or the cheapness and good quality of wine may lessen the same of fermented and distilled liquors, but in one way or another men will eat and drink what their appetite craves. It may be interesting and pertinent to examine carefully the following table, compiled from the report of the Commissfoner of the Internal Revenue, showing the consumption of distilled spirits, wine, and malt liquors, how the proportion changes year by year and amount per capita, as compared with that of the years of 1510, 1850, and 1860, previous to the heavy tax imposed by the necessities of the war :

In the 47 years the use of distilled spirits has gone down from 2.52 gallons to 1.19. Wine has increased from .29 gallons to .53, while malt liquors have advanced from 1,36 gallons to 11.98, Total in 1540, 4.17 gallons; 1557, 13,68 gallons. Notwithstanding all the changes of hard times and good times, war and peace, free sale, of high tax, when computed on their inherent alcoholic force, the consumption of alcoholic beverages has hardly varied at all.

There are cyidences that the use of malt liquors has reached its culmination. "Be sure your sin will find you out? is nowhere more clearly proven than in the history of trade. The rapid adoption of beer in this country has proven too strong a temptation to the cupidity of the manufacturer, until the fact of extensive adulteration in some cases has induced a lack of confidence in all brands of malt liquors, which doubtless will increase unless we can have some stringent regulations as to the standards of strength and purity like those at present in force in Germany.

Tacitus gives up the ancient German as a Insty, atrong creature, whose principal husiness in life was fighting, drinking mead and ale, and raising stalwart sons and daughters. The Latin priest brought the vine until it luxuriated on every hill side, and in the fifteenth century sold at the rate of five cents the pailful, becoming the common drink of the people. The great inflax of silver and gold from the New World made money cheaper and wine dearer, so that early in the sixteenth century stringent laws against adulteration were enacted. In some cuses adulterators of wine were publicly beheaded for the offense. Still public coudence was shaken as to purity, and again we find them returning to malt liquor.

In Worternburg in the sixteenth century the wine-growers complained loudly against the invasion of beer, and the breweries were simply appressed to please the owners of the vineyards. Prohibition is not new, it is quite an old fallacy on new ground. It is a question which would seem more ridiculous to the German of to-day, a law prohibiting the manufacture and sale of beer and wine, or the advent of a second Charlemagne to drive them by bordes through the rivers

#### LIVERMORE VINES

The history of the Livermore vine district is interesting in the fact that for years while nearly every other section of the State was boasting of its vineyard soils, and nearly all the "sunny slopes" and "sheltered valleys," in the "thermal belt," from Shasta to San Bernardino, were purpling with the "Inscions clusters," this region was regarded as ntterly without worth for orchard or vineyard purposes. Until within five or six years it was considered that grain was the staple of the valley, and upon grain the farmers based all their faith in "a great future." It has been a fortunate circumstance for Livermore that her soil suffered in comparison with the rich alluvial deposits of Eden township, and it was still more fortunate that the vagetable garden of Portuguese and the Chinaman has never been able to take root in the rich ado be, the losmy gravel, or the calcarious soil of this section, for in that case the vine would never have been planted, the fig and the olive would never have been thought of, and men with brains and capital would never have come to make this region per manently prosperous.

"And it was not the ancient farmer that first learned the capabilities of our soil," said an old resident of the valley. "It was not the man who placed his faith in big crops, and took his chances on droughts and consequent debt and a three ply mortgage. It was the white faced clerk, the scientific husbandman, the man of small means and wide information, that first appreciated the fact that products more valuable than those called 'crops' could be raised here.'

The oldest vineyard in the valley was owned by A. Bardolini, and comprised about ten acres. The vineyard was situated about two and a half miles south of Livermore, and while Bardolini was the owner it flourished as was natural, considering the excellence of the soil in which it was planted even though it was not subjected to the superior cultivation of modern methods. Bardolini sold his place and the vineyard, uncared for, was choked with weeds, and the grapes deteriorated year by year until J. H. Taylor, Superintendent of W. T. Coleman'a Marin county ranch, bought eight acres, and began his experiments. The vintage of 1880 yielded \$900 worth of grapes, and in the following year the vineyard produced \$1,100 worth. This encouraging result induced others to purchase land in the vicinity for orehard and vineyard purposes, and quite a colony sprang up around Taylor's rauch, which in 1881 included sixteen acres. Joseph Black owned considerable land south of Livermore, and through his enterprise many vineyardists were induced to make the same experiment that had resulted so successfully for Taylor. Black himself planted thirty acres, making a total of fifty-two acres in vines in the Livermore valley at the close of 1881. Then Charles A. Westmore made a critical examination of the soil, and pronounced it eminently fit for vineyard and orchard purposes. Since 1881 over 5,000 acres have been planted in vines, and during the last three or four years the average planting has been from 600 to 800 acres per year.

There are a dozen men resident in the Livermore yalley who have steadfast faith in the future of the section as a vinegrowing, winemaking, fig and olive bearing region. They are enthusiastic in their belief that this portion of Alameda county is destined to stand at the head of any section of the State in the production of these valua- ties planted, system of pruning, and the from Santa Clara county.

ble commodities. One man who has persistently advertised the advantages of the valley, and who has contributed largely to its present wealth and presperity, is W. P. Bartlett. Mr. Bartlett has for several years publishes the Livermore Herald, one of the best journals in the interior and a newspaper in every sense of the word, reflecting as it does the capabilities and advantages of the section covered by its circulation and patronage. Mr. Bartlett is a practical man and his enthusiasm is not of the visionary sert. He knows what he is talking about, and he has either demenstrated the facts he published or has seen them demonstrated by practical men. He has brought a great many men into the valley and induced them to settle there, and most of them have proved of direct and immediate benefit to the community. He has handled a vast amount of property, and he estimates that over a million dellars' worth of land has passed through his hands since he has been interested in this section of the county. Another man who has accomplished great results for the Livermore valley is Charles A. Wetmore, whose orchard and vineyard at Cresta Blanca was described a few days ago in the Tribune. Mr. Wetmore is also an enthusisst and his confidence in the future of this region is unbounded, although he is content to await the result which he claims is by no means yet attained. In fact, the product of the past five years he considers simply in the light of a successful experiment upon which the results of the future will be based. John P. Smith, the owner of the famous Olivina vineyard, is another enthusiast who has substantial reasons for his enthusiasm, and who has not hesitated to expend thousands of dollars in his "experiment." Mr. Smith has placed Livermore wine on the market that has compared favorably with the vintage of the old world, and in his depot in New York more of the same quality is now "aging" for future comparison, when, in fact there will be no comparison—the Livermore vintage will "age" to better wine. Others who have contributed largely to the fame which this section is steadily attaining, particularly as a winegrowing region, are Howard Black, A, G. Chauche of San Francisco, John Crellin of Oakland, A. Duvail, Wallace Everson of Oakland, D. T. Fewler of Oakland, J. H. Wheeler of Melrose, at present chief executive officer of the Viticultural Commission, S. Osterhout, and J. A. Rose of Pleasanton, all of whom are compelling the soil to produce its hest and pointing at the result with commendable pride while urging others to go and do likewise.

The cost of a viuevard in the Livermore valley is not nearly commensurate with the products according after it is in full bearing. If "white faced clerks," as they have been termed, were able to provide themselves with homes in this faithful region, and accomplish this end by means of the surplus of small salaries, surely others, with equal energy and ambition, may do the same. Farming, in California, is undergoing a change. It is no longer necessary that an orehard or farm should cover a township to be profitable, and experience has demonstrated that a small acreage thoroughly cultivated is more remunerative than many acres only partially cultivated. It is the small farm that will eventually provo of the greatest benefit to the State. The cost of planting and caring for a vineyarn until it is four years of age will depend greatly upon the soil, climate, varie-

facilities of the planter for doing the work In the Livermore district, where the soil and climate are admirably adapted to the rapid and healthful growth of the vine, and where there are no floods or other extreme freaks of climate to prevent labor in the vineyards at all seasons of the year, the eost of bringing a vineyard into bearing is much less than in those sections of the country where nature is more adverse to the enterprise. He who resides on his premises. owns his team and implements, and gives his personal attention to the work, at the preper time and in the proper manuer, can do the work better, and at much less expense, than he who hires it done. The cost of bringing a vineyard through four years with hired labor is about as follows: First year, preparing the ground, cuttings, plowing, and cultivating, \$20 to \$30 per acre. Second year, plowing, resetting vines, pruning, staking, and tying up, from \$25 to \$40 per aere. Third year, plowing, reset. ting, pruning, cultivating, tying up, and sulphuring, from \$15 to \$25 per acre. Fourth year, plowing, resetting, pruning cultivating, sulphuring, and tying up, fron \$18 to \$30 per acre. The cost will vary more or less with the different systems of planting, pruning, and staking. Many vine yards yield sufficient the third year, and all yield enough the fourth year to pay the exnenses of cultivation for those years respectively; and beginning with the fitth year, a vineyard properly cultivated will produce an income over all expenses, varying, of course, with the care bestowed.

The most thorough and impartial test of California wines was made under the direction of the State Viticultural Association Murch 7th of the present year, during the annual State Convention held in San Franeisco. The Committee of Experts on Wins Exhibits was as follows: R. J. Harrison, A. G. Chauche, H. A. Pellet, George West, J. A. Stewart, A. Erz, J. Chamon de St. Huhert, William Palmtag, O. C. Melver, A. Schell, H. M. Larue, and H. A. Merriam. This committee virtually tested the wines submitted to them blindfold, not knowing what vineyard they came from or to whom they belonged. The following extract from the committee's report will speak for it-

Total number of wines exhibited, 460. Of these quite a number were not tasted, owing to the want of time. Of the wines tasted there were twenty-nine that were cousidered "Extra," that term being applied to those wines that all of the committee considered to be No. 1. Of these twenty-nine "Evtra" wines Alameds county is credited with fifteen, Napa county with seven, Santa Clara county with four, San Joaquin with two, and Fresno with one.

Of the wines considered "fine" types there were eighty-six. Of these thirty-four came from Alameda county, thirty-one from Napa, five from Santa Clara, four from Santa Cruz, seven from San Josquin, two from Sonoma, and one each from Merced, Los Angeles, and Freano.

Of the Zinfandel type, there were fortynine samples. Three of these were considered "Extra" and they all came from Alameda county; sixteen were "fine" types and of these Alameda county furnished eight, Napa five, Santa Clara two, San Joaquin one.

Of the Cabernet (Medoc) wines, there were twenty-one samples, and five were considered "Extra." Of these "Extras" four came from Alameda county and one

Among the white wines there were eight that were considered "Extra." Four of these came from Napa county, three from Santa Clara, and one from Alameda coun-

It will be seen from this report that Alameda county furnished more "extra" and "fine" wines than all the rest of the counties combined.

#### GRAPE ROT.

This year has been remarkable for the prevalence of the rot in grapes, says the Farm and Vincyard, many remedies the were thought to be very successful in other years have tailed to be of any use in the

In some connection the fruit has been almost entirely destroyed by rot, and varieties that were formerly considered very free from it have this year suffered with the rest. This disease is caused by the growth of a small plant. In a damp or moist's ason or even in a dry one, when fogs and heavy dews are prevalent and the weather warm, at will rapidly develop into the rot.

There are many forms of the fangi which iffects the grape, producing the rot. Von Thurman describes about 300 that trouble the grapes in Germany, and from the great prevalence of the rot this year we should presume we had equally as many. The Phoma Uvicola is the most general cause of the rot, the spores of which exist every year in vast quantities in the air, ready for a suitable season to find lodgment and growth. The most favorable conditions for this is warm, damp nights and mornings, when the spores lodge upon the damp surtnees of the leaves and grapes, and find moist and warmth enough to sustain them until they gain a foothold, and when once established it is impossible to eradicate them. Hence, all vineyards that are usually free from heavy fogs and dews are less effected than others. Grapes growing upon trees and sheltered by the leaves from dew, as well as those that are covered, suffer but little. Covering is sometimes done by making a small roof by nailing a few boards on top of the trellis, over the vines. This keeps them free from dew aud regards the growth of the spores of the fungi and protects the vines in u great measure from the rot. Placing the young bunches of the grapes when very small, into paper bags and pinning the bag to the vine well, when done early enough, i e., before the ret gains a footheld, guerally protect the grape from these pests.

## NO DANGER FROM POISONOUS SPRAYS.

At a meeting last month in Cleveland, O., of the Society for the Promotion of Agricultural Science, an exhaustive paper was read upon the use of sprays centaining arsenites in controlling the ravages of curentio in a plum orchard. After reciting the great good accomplished in eradicating the pests, the results of experiments were given as to whether it was dangerous to eat fruit so treated. Quantities of fruit were carefully washed and tasts applied to detect the presence of arsenic, but without even the most minute quantity being found. Even when no rain has fallen to remove any of the poison which might possibly adhere to the fruits, it seems clear that no damage can result. If the spraying is not done for less than a month before ripening, the projonged exposure to the sun and air volatilize the arsenic and removes all traces from the fruit,

#### OLD MADEIRA

We are indepted to Bonfort's Circular for the following interesting statement about the vintages of Madeira:

It has been represented of late that old Madeira is going out of fashiou, and in suppert of that assumption some statistics have been quoted from the report of Consul Keene, of Madeira, to the Marquis of Salisbury. Mr. Keene ass rts that in 1887 the total exports of Madeira wine was 3800 pipes, showing a decrease as compared with e,e return of 1886 of 813 pipes. The consal refers to the difficulty he had experienced in obtaining the statistics from the Custom House, notwithstanding frequent and urgent appeals. This circumstance may explain the discrepancy between his figures and those which have been applied to London agents by the shippers in the island. It is admitted that there is as tend ney towards lighter drinks, clarets, hocks, and champagnes having, during the last quarter of a century, displaced sherries to a considerable extent; but in regard to port, there is probably as much consumed now as at any previous period. Sherry has never recovered from an attack upon it by som medical man. Madeira, however, stands in a different position. It is a wine with a history, and those who are interested in the walfare of the islan I which produces it are naturally indignant that it should be prejudiced in the eyes of the public and the very moment when a sound and cheap viatage is about to be offered for household consumption. Of course wine which can be sold at 1s, 6d, and 2s, per bottle retail is not, correctly speaking, old Madeira, it is of a lighter description, coming well within the le, daly rate. Since 1885 the strength has been much reduced, and last year more than half of the total imports of Madeira did not exceed 30°. It is true that the export trade is steadily decreasing, the fact being that for the first six months of 1888 the shipments have already reached 3636 pipes, the correct total for 1887 having been 1217 pipes, and for 1886, 5227. These figures are small enough when compared with the averages of the years from 1788 to 1838, during which time the wine may be said to have had its day. There were especially reasons why at the time of the Peninsular war the wine of Madeira should have been substituted for sherry, which was not obtainable from Spain. glorious days of Nelson's victories at Copenhagen and at Trafalgar, Englishmen delighted in a wine, the strength of which was then no small part of its recommendation. The Madeira of to-day is not identical with the beverage drunk by our grand farthers, but there is still some of 1815, the oldest in the market, to be had. The largest exports were recorded in 1800, 16,981 pipes; in 1801, 16,732 pipes; amd in 1807, 16,700 pipes. In 1801 the island was taken by the English, and in 1807 it was again captured by them. British tars-or, at any rate, their officers - were lamiliar with the quality of the wine; for an old bill of lading shows that my Lords of the Admiralty were accustomed to order it for victualling his majesty's navy so long ago as 1793. In the quality worked document, which is still preserved, they stipulate that a cargo intended for Barbadoes, per the good ship Providence, should consist of " 120 London made pip. s bound with 12 iron hoops each, both heads painted dark chocolate bolor, and branded upon the heads, and spiggots, N. G. 1. " The original of an order of 500

perted to London: "There are not 100 pipes of old wine in the hands of the natives for sale; the exports of the year 1800 exceeded all previous exports, being npwards of 17,000 pipes, and should the demand for our wine increase as much as it has done for some years, the island will not beable to supply the requisite quantity. Daring the succeeding quarter of a century the demand was fairly maintained, rising in 1825 to over 14,400 pipes, but in the following year the export fell to 9395. A decline, occasionally broken by a good year however, set in, and the totals more than once were short of 6000. In 1851 the aggregate was 7301, and that number has never since been attained.

It was in 1852 that the wine of Madeira was at a crisis of its history. The vineyards were devastated by the oidium, a fungus which attacks the grapes when the skins are very tihn. For eleven seasons not a pipe of wine was manufactured, and the stocks were gradually depleted, although the exports were reduced to less than, 1000 pip s per annum. High prices were asked until 1865, when the value of the wine was almost at its highest, although it was in 1816 that the largest figure was given for "London Particular." price in 1865 was double the quotation of 1797, which may be taken as applying also in 1858, as there is not much difference. It took more than ten years to discover that the fungus could be treated with sulphur, and since then the vintage has by degrees been to some extent recovered, a steady improvement having been especially noticeable since 1879. A trade subject to such fluctuations owes its preservation to one or two heading houses. In the good old times, when the East and West Indiamen, outward bound, called at Madeira. there were quite thirty English firms, each of which had its own flag. unmber has now been reduced to five or six. Whenever the ships hove in sight and displayed the colors of the merchants there was activity at Funchal, the capital of the island, to prepare the freights and to entertain visitors. Those times have gone, and no skipper now would consign his wine per a vessel which was bound to complete a voyage to the Indics before it could sail for home. A cask of Madeira which had been carried around the world and matared in the hot atmosphere of the hold was a priže indeed. There is not the same romance, but there is something of interest about the Madeira wine of to-day.

It is the soil of the favored island which gives character to its grapes. The districts of vine culture fringe the coasts, the interior of the island rising to mountain peaks of 5000 feet and 6000 seet altitude. Different varieties of grapes are grown, but the Malmsey, Sercial, and Bual are termed specialities. They, as well as the Tiula, a small black Burgundy, are giving way before the Verdelho, "a small oval grape, hardily as large as a coffee herry, when ripe of a rich golden hue, full of flavor and saccharine. '

The produce of a vineyard is frequently purchased before the grapes are pressed. The "mosto," or raw wine, is transported to Funchal in Canteiro pipes, holding 130 gallons each, old mearure. These great harrels are drawn about by oxyen yoked to a kind of sled. Fermentation goes until November, a small quantity of brandy being added. The stores in which the processes are carried on are of most pictures-

giving color to the stores, which may occupy several acres. The method of maturing the wine by sending it in a heated temperature to the West Indies and back has had to give place to a more practical system. In the country districts it is still the custom to put the butts in the open air under the direct sun, or store them in a glass house with the same object, But the large shippers are provided with estufas, or building of two stories, divided into two compartments. " In the first of these," an eye witness relates, " common wines are anbjected to a temperature of 140 d grees Fahrenheit-derived from flames, heated with anthracite coal-for the space of three months. In the next compartment wines of an intermediate quality are heated up to 130 degrees for a period of four and a half months; while the third is set apart for superior wines, heated variously from 110 to 120 degrees for the term of six months. The fourth compartment, knowns as the carol, possesses no flues, but derives its heat, varying from 90 to 100 degrees, exclusively from the compartments adjacent; and here only high-class wines are placed. The object of this heating of the wine is to destroy whatever germs of fermentation still remain in it, and to mature it more rapidly, in order that it may be shipped in its second and third year without any further addition of spirit. Each compartment is provided with double doors, and after it is filled with wine the inner doors are coated over with lime, so as to close up any chance apertures. When it is necessary to enter the estufa the auter doors only are opened. and a small trap in the inner door is pushed back to allow the entrance of the man in charge, who passes through the various stacks of casks, taping them one after another to satisfy himself that no leakage is going on. On coming out of the estufa, after a stay of a full hour, he instantly wraps himself in a blanket, drinks a tumberful of wine, and then shuts himself ap in a closet, into which no cool air penetrates," During the time the wines are in the estufa they diminish by evaporation 10 to 15 per cent. The wine is put into butts, each holding 400 gallons, and when ready for shipment is transferred to casks, which are made by coopers with the adz, of American oak staves, and cost perhaps £2 spice. The casks are measured, branded, scalded and steamed. They are seasoned with water, and then charged with common wine for two or three months. After this careful preparation they are considered fit for use. Whilst a quantity is sent to England for home consumption, it is stated that the people who drink most Madeira are the French, although until recently the were rivalled by the Russians.

#### A REMEDY FOR DIPHTHERIA

Line water is an admirable remedy in cases of diphtheria. Its local effect is more useful in cleansing and purifying the fances, and its mode of application is the easiest imaginable. It requires no spray apparatus, as denching, and no effort a gargling. It is sufficient to have the patient slowly swallow a teaspoonful or more every hour, in order to get good results from its use. This fact is of the greatest importance in treating children, who are too often cruelly tortured in the attempt to make local applications to the throat. Lime water can be given easily, and is taken readily by children; and there are, pipes for Savanuah can be seen dated May, que apperance-trellised vines stretching we believe, few cases of diphtheria which

1870. In 1801 the agents in the island re- from shed to shed, and scarlet gerauiums require a more energetic local treatment than the one just described. In fact, we think that an early clearing ont of the bowels, with calomel-sometimes in massive doses, followed up after a short interval by the administration of the lime water and the use of a suitable louic and roborant regimen, constitutes a method which comes the nearest to being of universal applicability of any one with which we are familiar ; and we think that the use of the lime water is of more consequence than any other part of the treatment, except it by the preliminary purgation .- Medical and Surgical Reporter.

# WHAT A TON OF COAL CON-TAINS.

A careful analysis and estimate made by a New York chemist of the constituents of a ton of coal presents some interesting facts. not familiar certainly to unscientific minds. It is found that, besides gas, a ton of ordinary gas coal will yield 1,500 pounds of coke, twenty gallons of ammonia water and 110 pounds of coal tar. Distillation of this amount of coal tar gives about seventy pounds of pitch, seventeen pounds of creosote, forrteen pounds of heavy oils, about nine and a half pounds of naphtha yellow, six and one-third pounds of asphthaline, four and three-fourths pounds of naphthol, two and a fourth pounds of alizarine, two and a fourth pounds of solvent nophths, one and a fifth pounds of aniline, seventy-nine hundredths af a pound of toludine, lortysix hundredths of a pound of anthracine, and nine-tenths of a pound of toluchesfrom the last named substance being obtained the new product, saccharine, said to be 230 times as sweet as the best can sugar.

#### PICKING AND PACKING GRAPES

In a recent issue of Vick's Magazine, a grape grower describes the eareful manuer in which grapes are picked and packed at an establishment in Chantanqua county, N. Y. The work is done by careful girls. The pickers are not allowed to touch the bunches with the hands, but to handle them by the stem. In packing, the cluster is lifted with the thumb and finger of one hand, and with the sharp pointed grape seissors in the other, all green, imperfect and braised berries are deftly and rapidly removed. The bloom of the grapes is thus perteetly preserved. Of 10,000 baskets sold last season, the average weight was 8 7-10 pounds per basket. The packers soon learn to place in the clusters so as to fill the baskets even and level. The Concord is never fit for hipping long distances without being carefully picked and then wilted before pack-

#### CORELESS APPLES

Horticulturists are now endeavoring to breed out the troublesome core from apples. We quote from the New York Tribune: "Two eases lately nut on record of seedless sorts of apple-one of them represented as a large and good winter variety-come directly in class with Professor Claypole's proposition to breed out the troublesome core from the best of our fruits. It is worthy of attention, especially as the trees are much more exhausted by the production of aceds than by that of their development, and usually the more aceds, the less of the catable pulp and the harsher its quality."

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#### BRAZIL AS A FIELD FOR EMIGRA. TION.

The Belgian Minister at Rio de Janeiro, in a recent report to his Government, makes the following remarks on the subject of Brazil as a field for emigration:

"It is into the province of St. Paul that the immigration of Europeans should be encouraged. For three years a daily increasing number of foreign laborers, mostly Italians, has been pouring into this province.

"St. Paul, which is situated to the south of the Empire, and bordered by the provinces of Rio, of Minas-Geroes, of Matte Grosso and of Parana, has an area of 312,-283 square kilometres. Its population is computed at 1,400,000 only, the lalter including nearly 200,000 foreigners, mostly Italians, when in proportion to the countries of Europe, it could easily support thirty millions. In the northwest region, vast territories occupied by the Indians are not vet explored.

"The climate is generally very healthy. The thermometer averages 19° centigrade (66° Fah.). The temperature is higher on the littoral, where, in the summer season, it rises to 25° and 30°, and even higher. The sanitary conditions, therefore, not quite so favorable. Yellow fever sometimes makes its appearance, but in the endemic state. This malady has considerably abated in Brazil, where it no longer exists except in a few seaports.

"The Brazalian yellow lever, of which people make a bugbear in Europe, is less to be feared than the cholera or typhus epidemics. It is limited to within a few zones of the coast, and never shows itself at a greater distance than fifteen leagues from the sea. Most of the cases are due, moreover, to the impradence of the victims, who neglect the precautions recommended to ward off its attacks.

" After the passage of the Serro do Mar, at an altitude of 850 metres above the level of the sea, the climate of the province of St. Paul may be cited as one of the best in the world, equal, and even superior, to that of central France. The soil is of astonishing fertility, and in the temperate zone produces in surprising abundance most European products. By reason of the immense extent of its territory, no country offers a vaster field of activity for the labor of man. The numerous streams contain a motive power which only requires to be utilized to the profit of industry. The climatic and other conditions render its soil suitable for every description of cultivation.

"The capital of the province is the town of St. Paul (San Paulo), situated in 33.33 degrees south Intitude and 49 degrees west longitude. Its population numbers 50,000, of whom 22,000 are foreigners; 12,000 Italians, 6000 Portuguese, 2000 Germans, the remainder of various other nationalities-French, Spanish, Belgians, the latter to the proportion of one-fifth. It is the central point of the principal railways, and the seat of the presidency of the province and of the episcopate; possesses the first university of the Empire, with 1000 students; a large seminary, a tribunal, en agency of the public treasury, manufactories of cotton tissues, ices, spirits, chemical matches and gloves, a foundary, and even a Belgian bakery.

"The province contains other important towns, such as Santos, Campinas, Jundiahy, Sorocaba, etc.

principal language is the Portuguese, but the Italian is also much spoken, as well as the French and Spanish.

"The Roman Catholic is the State religion of Brazil, but there is complete religious liberty.

"There are numerous ways of communication in the providence of St. Paul.

"The principal railway lines, with an extent of ovee 2000 kilometres, are the follow-

"English 139 kilometres, St. Paul and Rio de Janeiro 231, Paulista 242, Sorocabana 200, Dragantina 52, Mogyana 638, Rioclaro and Araquara 266, St. Jose do Pardo 72, St. Mauvel 28, Total, 2030 kilometres.

"In the town of St. Paul there is a society, having at its head M. Martinico de Silva Prado, and disposing of a capital of 500 contos or reis (\$423,000) for the transport of European emigrants to the province.

"This society gives a free passage from any European port to Santos as a destination, to every family of emigrants engaging to establish itself in the province of St. Paul, whether for agricultural purposes or

"The port of Santos is the place where the emigrants land. They are conveyed free of cost to St. Paul by the railway which ascends the Serro do Mar. The train deposits the emigrants at an immense hotel established for the service of emigrationr This place, where an admirable organization exists, can hold more than 1000 persons. New-comers are lodged there free of cost for eight days whilst waiting oflers of engagement, which are seldom wanting. It is rarely that, within three days, all the families of emigrants are not established. for after their arrival offers are made to them on all sides by the numerous owners requiring workmen. Hiring contracts no longer exist. There is a simple verbal engagement, the canceling of which on one side or the other is optional at all times. Emigrants have the choice between colonies created by the Government and private undertakings.

"At first they can, if they have the means, purchase a house and twenty-five acres of land for the sum of \$250 ready money, or for \$300 with four years' credit. They can cultivate the usual crops, and also work on account of the Government for a few hours during the day at the wages of 1000 reis-about 50 cents-per day. But there is no obligation to do so,

"The three large colonial centres under the direction of the Provincial Government ere those of Cannas, Cascalho and Ribeirag Preto.

"Other colonies not so large, but equally good, exist at Glorin, at St. Bernardo, at St. Caetano, at St. Anna and at Lorena; these are divided into lots, of which several are now vacant.

"Whatever may be the advantages offered by large colonial centres, it is desirable that, at the beginning of his settlement in Brazil, the emigrant should offer his services to a land proprietor, whether he does or does not possess the funds sufficient for the acquiston of pieces of ground. The reason for this is as follows: Newly landed in an unknown country he has to acquire an education. He must acclimatize himself, must learn the language commonly spoken, make himself acquainted with numerous details respecting the various methods of cultivation, which differ from those in Europe, and finally must not exhaust in experiments the money which he will require later.

" Employed in large private plantations,

him to provide for the means of existence for himself and family. He acquires the knowledge which he lacked, and can, without hurrying, seek the situation best saited to him, for he can leave at a day's notice the farm where he is provisionally engaged.

" In the fazendas a family consisting of several persons-husband, wife and children above ten years; that is to say, fit for work, earns sufficient to pay for maintenance and food, and effect savings, In these fazendas a substantial dwelling-house is granted gratnitously to the settler, which he can manege as he likes, together with about one acre of land, where he cultivates vegetables and cereals. Additional land may be obtained at an annual rental of 7-00 francs per 4000 square metres-about \$1.50 per acre.

"A healthy and active man can easily cultivate 4000 feet of coffee, the woman 2000, in addition to attending to her household duties. The elderly people and children furnish an amount of work in proportion to their age and their powers. Thus, there can be seen the fazendas families of Italians consisting of 15, 18 and even 22 persons — the grandparents, husbands, wives and children all working together happily and contentedly.

"The months of May, June, July, August and September, harvest time, require the settler to work every day in the coffee plautations. The remainder of the year leaves him sufficient leisure to look after his own crops, which largely provide his food, and from which he can also reap considerable profits.

"The average of the day's work does not exceed eight hours. The settler has the option of choosing the hours of the day best spited to him for the work he wishes to do: Each family has its house separate-can have a yard and keep pigs, goats and cows when means are forthcoming to purchase them.

"To the emigrant without resources, the planter or fazeadeiro supplies, during the first year, the things necessary for his subsistence-haricot beans, manioc floor, rice, lard, meat, salt and sugar, and even tobacco and spirits. But this is only an advance, which must be repaid out of future gains. It rarely happens that the settler has not grown, at the expiration of a year, the wherewithai to keep himself.

"The following statement shows the avverage earnings of emigrants, established on the basis of last year's returns:

Husband and wife (old), 1000 francs-\$200.

Husband and wife (young), 1300 francs-\$260.

Two robust single men. 1500 francs-\$300. A man and three children, 1600 francs-\$320.

Husband wife and child, 1600 francs-\$400.

Four laborers, of whom two women, 2000 france-\$400.

Five laborers, of whom three women, 2800 francs-\$560.

Three men, 2540 francs-\$508.50.

"If the emigrant, possessing a little

capital, wishes to settle on his own account, he has plenty of suitable lands to choose from. It is difficult to fix exactly the price of these lands. The margin is very great. The minimum is 12.50 francs per two hectares 42 acres-fifty cents per acre-and rises progressively to 1000-\$33-and 1500 francs-\$50-and above, the value of the he immediately earns a wage which allows lands varying according for their situation per pint).

and the kind of cultivation it is proposed to carry on.

"The foregoing information especially: relates to immigration for agricultural industry. If in the interior, in the country: the agricultural laborers are sought after to such a degree that in a few days 30,000 emigrants, consisting of families, can easily find work; others will also find employment in the towns, where there is almost always a demand for good cooks, domestic servants and artisans

"The liberal professions, or those of the scientific, commercial or artistic order, ar not referred to. For these the conditions are most exacting, the chances of success without guarantee, the competition by the native element being very keen.

They concsru an entirely different order of things. It is a question here only of the emigrant properly so-called.

"The wages offered in the towns are high compared with those in European or American countries, including the Argentine Republic.

"The following statement gives some idea of these. In the province of St. Paul a day-laborer is paid from 75 francs—\$15 to 100 francs-\$20-per month, with board and lodging.

Kitchen-gardener, from 100 francs-\$20to 150 francs-\$30-with board and lodg-

Gardsner, from 125 francs-\$2,25-to 200 frances-\$40-with board and lodging.

Baker, from 125 frans-\$25-with board and lodging,

Hack-drivers, fram 100 francs-\$20--to 150 francs-\$30-with board and lodging.

Cook (man or female), from 100 francs \$20-to 150 francs-\$30-with board and lodging.

Domestic servant, from 75 francs-\$15to 125 francs-\$25-with heard and lodg-

Servant, from 65 francs-\$12.50- to 100 francs-\$20-with board and lodging.

Nurse, from 100 francs-\$20-to 125 francs-\$25-with beard and lodging.

Seamstress, from 75 francs-\$20-to 100 francs-\$20-with board and lodging. Carpenter, from 7:50 francs-\$1.50-to

12.50 francs-\$2.50-per day, without foed or lodgings.

Shoemaker, same as carpenter.

Mason, from 6.25 francs-\$1,25-to 12.50 francs-\$2.50-per day, without board or lodging. Stonemason, from 10:00 francs-\$2-te

15:00 francs-\$3--without board or lodg-Saddler and harness-maker, 6.50 francs

-\$1.50-to 10.00 francs-\$2-without board or lodging.

Machinist, from 1250 france-\$250-to 3000 francs-\$550-per annum. The difference in wage is fixed according to merit.

"The price of articles of food varies, but not to a very great extent, according to the situation and the abundance of crops.

"The average price of some of these articles may be approximately stated as follows:

Sugar, 0.82 francs per kilogrammo (7 cts. per lh).

Lard, 1.18 francs per kilog. (10 cts. per

Coffee, 0.66 francs per kilog. (6 cts per

Rice, 0.25 francs per litre (6 cts per pint). Potatoes, 0.25 francs per litre (3 cts. per pint).

Manioc flour, 0.12 francs per litre (3 cts

Millet flour, 0.16 Iranes per litro (2 ets. per pint).

Maize flour, 0-10 franes per litre (1 ct. per

Haricots, 0.25 francs per litre (3 cts. per pint).

Tobacco, 250 franca per kilog. (22 cts. per lb).

Meat, 1.25 francs per kilog. (11 ets. pe

Charcoal, 25:00 francs per 100 kilos. (\$2,51) per ewt.

Dack, 1:25 francs (25 cts.) each. Fowl, 1:125 (rancs (25 ets) each. Sucking pig, 7:50 frames (\$1,25) each. Gont, 7 50 francs (\$1 50) each. Sheep, 10.00 francs (\$2) each.

#### DON'T DIG UP THE VINES.

In conversing with viticalturists great and small we find there is a coming conviction that about half the present average of wine grapes must come up in consequence of the low price of grapes and wine, and that is why we say as we do at the head of this article.

Four years ago when we first heard people talk about planting in California, about three-fourths of those who expressed an opinion at all said that fruit planted had been grossly overdone, and that fruit, which had to be disposed of at once, was a precarious erop to raise, while wine could be kept from year to year, and grow more valnable all the time, the increase in value being more than the interest on money. Those three-fourths thought the vineyard business was much safer than the orchard business, and many went into it.

Now it seems the whole thing is reversed, and the orehard men have received a steady profit on their investment all the time, and there are no signs of overdoing, while wine has been wonderfully low for two years.

Now the grape growers have two plans for relief, and to our idea, neither of these plans is consonant with muture judgment

Oue is to dig up a part of the vines and plant to fruit. Another is to graft over the wine grapes into tabla grapes and raisin grapes.

There are enough table grapes now to supply the demand. Those who have them in good quality get a fair price for them and make some money. If they were suddenly increased in amount by grafting over several thousand acres of wine grapes that business would go to ruin also. Californians are too apt to go with a rush and a jam from temporary causes.

There are not too many vinea of wine grapes; fhat is not the cause of present low

The trouble is right here; too many vines were planted in proportion to the number of wineries that were built, and that has made two troubles, yes, three. First, the lack of wineries made it in the power of those who had wineries to make a low price on grapes. Second. In haste to remedy this evil, wineries were improvised in all sorts of open sheds and buildings and with all sorts of cooperage, and all sorts of wine makers, and the result was a great proportion of poorly fermented and poorly cared for wine, ever so many gallons were troubled with milk sonruess and acetic acid, and had to be forced apon the market or sent to the distitlery at once. Third, when wineries were bailt there was not sufficient cooperage nor money backing to enable them to huld their wine more than about a year, and the wine

see this, and sharp enough to know they could get the wine at about any price they had a mind to pay.

And now, just when there is a chance to emedy all these defects the wine growers think the way out is to dig up the vines or graft them over. These wine merchants get just as much for their three-year old wine as they did four years ago when prospects were favorable to the grower.

If you plant fruit it will be four of five years before you will begin to get pay from that, and half the capital craployed in planting and waiting for that will provide storage for wine and ways to keep the half dozen merchants from controlling as many thousands of wine growers,

Rather than sell your wine for a few cents per gallon to these merchants, establish a co-operative agency in the East and let your wine go for the same money there, and by virtue of its very cheapness introduce it into hundreds of places that now do not see a single bottle or eask of California wine. Once introduced it will sell at a paying price.

There will be a change in all this matter, and there are none too many vinea now planted to supply the wants which the next four years will develop.

What we would do is to improve the op portunity to change worthless and inferior grapes into better ones by grafting, which can be done with loss of only two crops,

Let the planting of table grapes go on just as it has with a healthy increase to keep up with the demand, but don't rush on several thousand acres of grafts which you will wish were back again into wine grapes before two years are over, nor dig up vines which you are sure to wish back again before the fruit trees which take their places can come to bearing.

Continuing to plant the best grape lands to grapes and the best fruit lands to fruit all will be well, both with wine and fruit .-Santa Clara Valley.

#### OLIVES IN EASTERN BUTTE.

W. E. Mack, of Paradise, Butte county, writing on the subject in the Rural Press. says: As Butte county has been prominently brought before the public by ita fine exhibit at the late Mechanics' Fair, will you please allow me space in your valuable paper to say a few words in regard to olive culture in the paradise plateau.

Not caring to engage in an interminable warfare against the black scale, and knowing that in Europe and the Holy Land the olive thrives best on the high dry lands of the mountain slopes, I concluded to experiment in olive culture on this platean.

For the benefit of the readers of the Press who are not acquainted with the topography of this section, let me state that this platean is situated in the eastern part of Butte county, at an elevation of 1,700 feet. The character of the soil, (a fine red loam) the ultitude and the rolling condition of the land insuring perfect drainage, led me to believe that here was a soil and climate peculiarly adapted to olive culture. Coming too late to prepare my land in time to plant trees in the spring of '77, I induced Dr. Jenkins of Oreville, who has a fine body of land here, to plant a small tract to olives. He put out 400 one-year-old rooted cuttings of the l'icholine variety, which made a wonderful growth. Last spring he was so well pleased with the success of his

ring of San Francisco were sharp enough to more rooted cuttings of the same variety. At the same time in March 1 planted six acres to one-year-old rooted cuttings of the Picholine and Mission valeties, laying off the ground by the triangular method. The holes were 20 inches across by 22 inches deep, and 20 feet apart. I filled them with small stones about one-half the depth, then finished filling with rich top soil. had an excavation made with the hand sufficiently large to receive the roots of the cuttings, carefully sifting the dirt among the fine fibers, still using top soil. When the roots were nicely covered, I poured about a quart of water in the hole to settle the dir and exclude, then fluished filling and packed lightly. I only lost two per cent of the Missions, and that was probably owing to the root system having been injured by being frozen hard in the box of sand in which they were rooted before they were shipped to me.

> Of the Picholines I have not lost one per eent. I have never, in all my observations, seen a finer growth than that made by my trees this summer, some of them sending out shoots twenty-four inches in length, making two-thirds of this growth during the months of July and August. The treca had no irrigation or enltivation except three thorough hoeings to the distance of about three feet around each tree. This winter I will the give ground between the trees a deep plowing, and will cultivate next summer the same as I did this. Next March I will put out 2,000 more olives, principally of the Mission variety, as I consider them the most thrifty and vigorous growers. there are no fruit of any kind here, and the deciduous fruits of all varieties reach their greatest perfection, I am thoroughly convinced that olive culture on the Paradise plateau will be one of the profitable industries of Eastern Butte.

#### THE PANAMA CANAL.

The Statist, of August 18th, puts the actual financial position of this concern very clearly before the public, and makes it very plain that the Bourses have before long to face the inevitable smash of the Company, and with it the total ruin of many hundreds of thousands. The sauguine temperament of M. Ferdinand de Lesseps seems to make him lose his judgment when he is deeply interested in any acheme, and his last public declaration to the shareholders, at the general meeting on August 1st, surpasses all his previous excursions into the regions of prophecy.

When the Parliamentary Committee was sitting in May last to investigate whether the exceptional privileges of a lottery loan might be granted to the Panama Company it was elicited from the leading engineers of the work that the final execution of the Canal was impossible with the amount then asked for--viz., 600,000,000L, but that they hoped to advance the operations with this money so far that the feasibility of the waterway could be demonstrated to the world. Meanwhile the Lottery Loan was decidedly a failure, and the public took only \$30,000 of the 2,000,000 bonds offered, as was officially admitted when application was made for a quotation on the Bourse of Paris. M. de Lesseps acknowledged, at the recent meeting, that many of the last Lottery Bonds had been paid up in full, under discount, and that this would enable them to continue their work. At the same time he asked all those present to exerexperiment that he put out about 1,500 themselves to place the remaining 1,170,000

Lottery Bonds. The pressing financial needs of the canal would thus be provided for, and the "miserable speculators" defied

M. de Lesseps carefully avoided mention ing that bitherto his estimates about the time of opening the canal have invariably proved erroneous, and that his promises, solemnly repeated whenever he applied to the public for money, were every time unfulfilled. He wittingly kept back from his shareholders the investigations of the Parliamentary Commission of May this year, and yet made bold assertious about the final execution of the canal, which he knew to be inconsistent with his own declarations and those of his principal officers before the Commission.

After this, it cannot be wondered at that many serious bankers, who hitherto relied upon the veracity of M. de Lesseps, ahould grow disgusted, and abandon the whole enterprise as hopelessly impracticable, Meanwhile, some of the big Paria establishments have committed themselves very heavily; the Crédit Lyonnais, for instance, has recommended to its numerous clients all and every Panama issue so warmly that its atanding and reputation would be decidedly jeopardised by the break up of the Canal Company, which cannot be delayed much longer. Such a smash would not involve a dead loss of capital of fully £55,000,000 sterling, but would cause a run upon some of the big Paris banks for the repayments of deposits-a demand which could not possibly be complied with, seeing how seriously and deeply they have committed themselves to the l'anama enterprises. Here lies the great danger for the Paris Bourse, and a prospect of a repetition of the l'Union Générale crash .--

#### GERMANIZING WINES

According to the Scientific Review, champagne, as well as the other French viutages, is destined to suffer heavily from loreign competition. Three causes combined to injure French winea in foreign markets-the excessive rates of duty, falsification and innumerable imitations. As regards champagne, wine merchants across the Rhine now bay the results of the vintagea in the vicinity of Epernay and Rheims, earry them into Germany and manipulate them on the most approved French plan. Thus they obtain a product which, although vastly inferior to the French champagne, is good enough for even many of their wealthy eustomers, who were previously in the habit of getting their wine straight from France. The German Government favors this traffie by imposing a tax of nearly 2 marks on each bottle of champagne which crosses the frontier, while the same wine when known to have been what is called by the writer of the article "Germanized," is subjected to a very light daty. The writer also points out that it is not only the French merchants who suffer owing to this "Germanizing" process, but the glass blowers, eark eutters, cellarers and workmen of every kind who are employed by the great champagne houses in myriads. The future prospects of the whole wine industry are in fact very gloomy, and the worst of it is in the words of the same authority, they are not only the old and sworn enemies of France who strike this terrible blow at her industries, but also her future friends, the Russians. Wines are now manufactured in the valley of the Don, and they are often as good as the France brands of champagne, while wine coming from France is taxed at more than one rouble for each bottle.



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FRIDAY.....OCTOBER 12, 1888

THE ATTENTION of viticulturists is directed to a letter from B. F. Clayton, of New York, published in this issue of the MERCHANT. Mr. Clayton has been appointed special agent by the Department of Agriculture to collect a viticultural exhibit for the American department in the Paris World's Exposition of 1889. Mr. Clayton is to spend some time in the East, collecting samples from Virginia, Ohio, and Missouri, and as soon as this is done he will come to California, from which State the principal portion of the exhibit is to be gathered. He will accept wine, brandy, raisins, and other viticultural products, and all that will be shown will have a prominent place. California producera will do well to avail themselves of this opportunity to promote the interests of the industry abroad, by letting people see what can be done here with the aid of our "glorious elimate."

THE EASTERN grape crop in many of the districts is said to be phenomenally large this year. The early varieties of grapes, on Lake Chantauqua, are now being moved forward to the city markets and the Concords will will yield an immenae crop. It Is estimated that the grape tounage of 1887 will be exceeded by 2,000 tons. A very similar condition, and large increase of the crop, is indicated on the shores of Kenka, Seneca, and Canandaigua. It is indeed a phenomenal grape year, and if the crop is all harvested before the advent of the first bad freeze, it will be a cause for universal thanksgiving and congratulation, among the vineyardists in the Lake country of the Empire State.

IN BEOARD to the Whitechapel murders which are at present agitating the people of Great Britain, the St. James Gazette sayagely criticising General Warren's administration, closes the article with a prayer for a squad of New York detectives to give the London police a few lessons in the profession they have apparently unwisely chosen, What is the matter with throwing a few of our San Francisco beauties in to add tone to the brigade? They are about as smart to the brigade? as they make them-provided the reward

Wine Notes from Bonfort's correspondents

In the Bordeaux districts of France, there has been a steady improvement in the weather, since my last semi-monthly review, the grapes thus being able to make considerable headway toward a normal state of maturity. Should this favorable temperature, devoid of an excess of moistnre, continue during the current month, the vintage would be inaugurated in the Gironde ander auspicions circumstances. The year 1886 closely resembled this year; it did not give us anything extraordinary in point of quality, but a good merchantable wine. Perhaps we may in this respect even do better this year if September makes the amends hoped.

The district of the Lower Pyrenees is being flooded with Spanish grapes, getting across the frontier duty free. People who do not own vineyards bny them and make wine, which will render all the more difficult the sale of the domestic product,

At the time the bad weather set in in July the blossoming of vines in Rhenish Prussia, had been successfully accomplished in this -district, hence the subsequent rains did not do much harm. September, so far a fine mouth, will decide what we are going to have in the way of quality; it will be advisable, however, not to pin expectations too high. In the Haardt Mountain District, grapes, it cannot be denied, suffered seriously in July and August, not only from the inclement wenther, but from vine diseases; hence as a rule viticulturists there are the reverse of sanguine about the coming vintage, even granting that Sep. tember remains as bright and mild as it so far has proved. Quality not up to standard is apprehended. In the Rhenish Hesse, with the favorable turn in the weather during the fortuight that has elapsed since my last report, a more cheerful feeling has begun to prevail among proprietors; still September and October will have to do wonders to approximately obliterate the consequences of the cold dampness which characterized the summer months in the German wine regions.

The condition of vineyards in Northern Spain is satisfactory; the vinea that have not been mildew-smitten are loaded down with fruit, and maturity, favored by fine seasonable weather, has been hastened. In Aragon and the Riojas on the contrary the mildew has ravaged a good many localities, so that there will be a short vintage there, eausing prices on the spot and to arrive to harden. The vintage of 1888, after making every allowance for the damage done by the mildew alluded to and the phylloxera at Ampurdan and near Malaga, as well as in Catalonia near Barcelona, will from present appearances not only exceed in quantity that of ISS7, but in quality likewise, taken as a whole. As for the gathering of the crop, the vintage commenced in August in portions of

During ten consecutive days of tropical heat the grapes have suffered considerably in August in a number of localities too much exposed to the sunbeams in Portugal, where they have been burned and have shrivelled, but the vines as a general thiag hend down under the load they have to carry in all places not contaminated by the phylloxera. In fact the abundance is such that the impression prevails, this year's yield will not be inferior in quantity to that of ISS7. About quality nothing can cents per pound.

The following are the latest foreign as yet be prognosticated. It should be remarked that the phylloxera has extended its invasion in a terrible manner; unless a vigorous stand be taken at Torres Vedras, the vines will be extinct in that region in a couple of years. The disease unfortunately spreads, despite the obstacles thrown in its way, so far.

> The phylloxera, which has irresistibly invaded all portions of Hungary, has now also made its appearance quite close to the Rust vineyards, so far, fortunately, to a moderate extent merely. Yet, as may easily be nnderatood, this circumstances fills the minds of proprietors with consternation. From this and unfavorable weather, the deplorable conclusion is arrived at that the 1888 vintage will not only fail to fulfill the hopes of a good crop being housed, but that the same will prove downright inferior both as regards quantity and quality, and this all the more as August has also brought as rain, a low temperature, and high winds. There is thus no more room for eanguine expectations.

An abundant Italian wine yield is in prospect, but proprietors find all outlet closed against them. Complete ruin is feared if to the unsold stock accumulation from last year there is to be added a fresh one without buyers. In the southern provinces the crisis is being intensified; the cousequences of the commercial rupture with France are evidently worse than the most pessimist predictions that had been made, The situation is a grave one, in Apulia in particular, whose successive failure of the most solid firma increases the critical state of affairs.

THE Southern Californian reports some splendid grapes crops in the vicinity of Lugonia. In one vineyard five year old Muscat vines are producing at the rate of a tray to each vine on the first picking. This is at the rate of a tray to each vine on the first picking or within a few pounds of seven tona to the acre. There is only one drawback to this big crop, and that is the lack of trays to handle it. The packers gather about 130 trays daily for which they receive three cents a tray. In another vineyard a crops of Muscat and Seedless Sultana grapes are being gathered, some of the clusters weighing nearly three pounds each. The editor further adds that it is an absolute fact that some of these vines have yielded fifty pounds each or a trifle over fifteen tons to the acre. He winds np with an affidavit that this is not "a newspaper yarn."

LIVERMORE grape growers are in bonanza. The crop seems to be going off at satisfactory prices. The first shipment is already on the way East consigned to the East Fruit Company. The same parties having purchased the entire crops of several varieties of J. H. Wheeler, owner of the Cordelia vineyard and of the owners of Oak Spring property. Mr. Wheeler's varieties are the Florence Tokay and Black Ferrara, sold at \$50 per ton, and the Oak Spring is the Black Morocco, at \$40 per ton. The company furnishes boxes and crates and does the packing. No other varieties unless it might be the Cornchon are wanted. In theac, grape producers in this locality are demanding 31/2 for wine grapes and 41/2 for Muscats. This would equal \$20 per ton for the grapes all expenses paid. It is said that the Fresno erop is already contracted for by eastern parties at 21/2 to 23;

SECRETARY WM. M. BRAMBALL, of the Culifornia Dried Fruit Association, annonnces the appointment of J. K. Armsby & Co., of Chicago, as agents for the Association in the county lying between the Alleghany mountains on the east and the Rocky mountains on the west.

This brings into effective co-operation the largest selling or distributing house of California Fruit Products in the United States; not only removing a possible competitor, but securing their vast organization of sub-agents in every wholesale city within their territory, as well as the well-known activity, energy and intelligence of that honse. As a result of this appointment, telegraphic demands have been received from the firm for a large line of dried Fruits, Rsisius and Nuts of every descrip. tion preduced in California.

THE CALIFORNIA dried fruit Association has succeeded in effecting the sale of four carloads of raising to parties in London at a price highly satisfactory to the sellers, Messrs. Miner & Hayes of Colton, San Bernardino county, and George W. Mead & Co. of Fresno. This is the first sale of the kind that has occurred in the history of the industry, and the officers of the association feel highly elated at the success of the association thus far. Secretary Bramhall expects in a short time hot only to drive the Malaga raisins out of the home market, but also to carry the competition into the European markets, where dealers are already commencing to realize the superior qualities of the California product.

Dr. ISAMBARN OWEN, Secretary of the British Medical Association, has prepared a report on the enquiry into the connection of disease with habits of intemperance. He gives some statistics which will startle temperance people. Particulars obtained of 4,254 cases of total abstainers, habitually temperate, careless drinkers, and decidedly intemperate show the lowest average duration of life that of the teetotaler and diseases lives aged 25 years and upward in which the habits of the person in regard to alcohol were rendered in five classes, the highest the moderate drinker, his average being nearly eleven years longer. The habitual drnnkard averagee about a year longer than the iotal abstainer.

WILLIAM RUEFF, cellar-master at the Gallegos winery, has resigned his position, and Mr. Raymond Nougant, a viticultural scholar from Montpelier, France, has been appointed to the position. Mr. Pohudorff, the manager is, we understand, employing quite a number of young men at this winery with very satisfactory results.

BONFORT'S CIRCULAR notes that Alfred Greenbaum & Co. have leased premises at 29 and 31 River Street, Chicago, where they will earry a large and choice stock of California wines and brandies.

The Country Gentleman deprecates summer trimming of grape vines as in general a dangerous experiment. It says: There must be a anfficient amount of foliage to feed well the growing fruit. We have seen a vineyard ruined by cutting off shoots and leaves, under the mistaken view of letting is sunshine on the grapes. It is the leaves that need the sunlight, and not the fruit. It is better to give too much vine and foliage above the grapes than too little.

issued a report on the adaptation of Russian and other fruits to the extreme Northern portions of the United States. In regard to the grape we quote as follows

The grape (Vilis) is represented in Enrope outy by the single species vinifera, although since the advent of the phylloxera in the grape-growing regions of that conntry importations of American species have been freely made, with the hope that, by their more robust habit, they may prove better able to resist the attacks of this new enemy. This species proves obstinately nusuccessful throughout the castern United States. A very considerable unmber of our improved American varieties have nevertheless become tainted with this strain by hybridization, and many of these seem to have derived desirable qualities from this source; although generally, if not always, with increased tendency to suffer from unldaw -the chief enemy of the vinifera class in this country.

Of our American species, Vitis condifolia the northern Frost Grape-is indigenous far northward of the United States. By modern botanists this is blended with or included in reparia.

Vitis labrusca - the indigenous wild grape of New England-becomes more rare as we proceed westward, occurring very rarely in western New York and Michigan ; and, it is believed, wholly disappearing, as an indigenous growth farther west.

Vills astivalis can only be said to be indigenous south of the region under consideration; though occasionally extending sporadically into its southern portions.

Within the past thirty or forty years, in the process of improving our native grapes by reproduction and bringing them under cultivation while there yet remain many varieties which clearly represent the original species, these species have in many cases become so blended by hybridization, that frequently nothing short of an authentic history of a variety would suffice to assign it its correct specific position.

As the result of this blending and improvement, the resultant varieties have come to be planted indiscriminately throughout the region under consideration; reference being mainly had to their probable ability to mature their fruit within the season, and resort being had to protection in winter in regions in which very low temperatures are to be anticipated.

Vinis valpina (rotundifolia), which includes the Scuppernong, also candicans, ciarren, monticola, Novo Mexicana, and rupestris, are Southern species, generally lacking hardiness at the North ; few if any of them having produced varieties of value for Northern planting. The fact that Catawba and Isabella grapes, perfectly ripened in the open air at Excelsior, Minn .. on the banks of Lake Minnetonks, were awarded a premium at the New Orleans Exposition, was a surprise to very many; since the former especially is not, with ordinary surroundings, considered sure to ripen fully north of latitude 39° or 40°.

That these varieties can be fully matured in the open air five or six degrees farther north, would indicate that the summers there are specially favorable for the purpose. A visit this year to the vineyard which supplied the specimens in question showed that it is favorably situated on dry, warm soil, sloping rapidly to the cast and south, and that the cultivation and pruning were of the best and most effective kind, rendering the laying down and covering of easy and effective. Under only ordinary circumstances, however, many varieties were in an advanced stage of ripeness, and 'Minnetonka grapes' were freely offered in the markets of Minneapolis and Saint Paul as early as the 18th of August.

That there is little difference between his region and those farther east so far as choice of varieties may be concerned, is elearly indicated by the following list, the relative popularity of each variety being indicated by the numbers attached to each and the varieties being those recommended in the discussions of societies and the reports of committees

Concord, 33; Moore, 27, Worden, 27 Delaware, 12; Pocklington, 12; Martha, 12; Janesville, 12; Agawam, 9; Lady, 9 Cottage, 8; Brighton, 7; Salem, 6; Telegraph, 6; Elvira, 6; Niagara, 5; Ives, 5 Dracut Amber, 5; Lady Washington, Empire State 4; Wilder, 3; Woodruff Red, 3; Coe, 2; Early Victor, 2; Perkins, 2; Vergennes, 2; Emmelan, 1; Barry, 1 Massasoit, 1; Lindby, 1; Champion, 1 Jessica, 1; Florence, 1; Hartford, 1; Crevelling, 1; New Haven, 1; Wyoming Red, 1; Northern Muscadine, 1; Clinton, 1; Marion, 1; Bacchus, 1; Black Hawk, 1; Black Eagle, 1; Beauty, 1; Red Fox, 1; El Dorado, 1; Jefferson, 1; Duchess, 1; lona, 1; Rogers No. 33, 1,

The impolicy of the very common practice among the originators and introducers of new varieties of sending them out under numbers is strikingly manifest in the almost universal custom in the Northwest, in the discussions and reports of horticultural gatherings, to continue the use of the original numbers, sometimes compled with the name, but quite frequently without such accompaniment, not only greatly to the inconvenience of the hearer or the reader of a report, but also with a greatly-increased liability to err consequent upon the use of figures.

It would, beyond doubt, inure greatly to the convenience of all concerned, if all societies could be induced, in cases in which names exist, to resolutely exclude the numbers from their discussions, and especially from the reports of their transactions,

#### IMPORTANT TO WINE MAKERS.

The following letter addressed to us by Messrs, Charles Meinecke & Co. of this city, explains itself and as its contents seem to be of special interest to our California wine makers and wine merchants, we cheerfully call their attention to its importance,

We beg herewith to submit to you the following extract from Mr. A. Chevallier-Appert's last letter, which may prove interesting and useful to the wine makers and wine merchants of California. He says about: Oleotanium for white and red wines. I recommend earnestly that it be sprinkled on the grapes when they are going into the crusher or press, in order that it may pass, in the must, through the fermentation, controlling and regulating it, and that it may show its beneficient effect upon the young wine. This is for European wines and best method of using it. The Oleotanium can however also be used on fermented wines, young and old, as wanted. For the clarification afterwards of white and red wines you can safely recommend my l'ulverine as superior to any clarifier used; its reputation is firmly established in all wine making countries, and I am confident that your California wine makers will

Wishing to bring this communication to the notice of the wine int rest of California, we beg you will kindly insert the above in the next issue of your valuable journa! and referring to our adver iscments.

Yours, very respectfully,

CHARLES MEINECKE & Co,

P. S .- In conclusion we beg to ctate that Chevallier-Appert's Oleotanium and I'alverine have been analysed by 1 rofessor Rising of the State University, Berkeley, and recommended as perfectly safe for use

#### WHOLESALE MARKET.

Quotations given are for large lots to the whole

CALIFORNIA SAISING Halves, Quarters and Eighths, 25, 50 and 75 cents ligher respectively than whole box prices. London Layers, choice per box fancy " ". Unstemmed in sacks, per B. . . . ecdless eedles

'' per 20-B. box...

'' Sultanas, unbleached, in boxes, ≥ B

'' bleached, '' ''

CANNED BRADE 

Unsterned, sks.

#### Sugar Quotations

California Sugar Refinery price list dated October 8th Circle A. Pat Cube, 8-80; Circle A Crashed, 83 se; Fine Crushed, 83 se; Extra Powdered, 80 ,c; Dry Granulated, Se; Confectioners' Circle A, 73 sc; Extra C, 71,c; Golden C, 63,c; Star Drips Syrup, in bbls, 20e; hf do, 2214c; 5-gall kegs, 2714e; I gall tins, 3714e per gallon.

Price list of the American Sugar Refinery dated October 8th: Extra Fine Cube, in bbls, 814e; Circle A, Crushed, 846e; Fine Crushed, 83 se; Powd-red, 84 se; Extra Fine Powdered, 83 sc; Dry Granulated, Sc; XX Dry Granulated, Sc; Confectioners' Cirele A, 81%c; Extra C, 678c; Golden C, 658c; American Golden Syrup, in bbls, 20c per gallon.

IN THE San Francisco Market, Table Grapes are in light supply and very firm at an advance in prices. Wine Grapes are in fair demand. We quote Wine Grapes, \$13 00(a \$15-7 ton for Zinfandel and \$10 00 (# \$15 00 for other kinds; Table Grapes, 35(#60c 71 hox for Black, 60(#75c for Cornichons. 30th 40c for Sweetwater, 50th 75c for Tokays and 50(a 70c for Muscot.

#### A GROWL PROM THE EAST.

EDITOR MERCHANT:-

In my opinion times are not near bad enough for the average California vincvardist. The fellows who consider one variety of grapes as good as another have ruined the trade in California wines, and it will not recover until they have all gone out of business, or pulled their vines, or grafted over to better varieties. In my extensive travels I always make it my business to enquire into the prospects of California wine, but the answer which is invariably given me is, " We will not keep California wines until they learn how to make them. Too much alcohol, earthy taste and too neid," is the general complaint. Same with brandy : " flavor no good, makes people sick, etc." Iteforms never come until people are driven to them, and as times for the average vigneron become worse, he

THE DEPARTMENT of agriculture has just the plants (which is indispensable here) recognize its great merits after the first must referm or go under. Either will do, as long as he gets out of the way, for while there is so much poor stuff thrown on the market the good will suff-r with it. There will undoubtedly be a great reaction this season as regards the planting of vincyards, and there will be plenty of buttings and rooted vines to go around, and this is as it should be. French prunes and olives ar what they will probably run on, and an over-production of these is not easily possible Grapes fit to ship green to Listern markets will also be increased many times over. I say green advisedly, for I can't find a California grape that is fit to cat, for none are nearly ripe, and in my opinion less will be sold in Chicago next season than this, unless a way is found to allow them to ripen more satisfactorily.

With regards I am truly yours, W. WEIINER

Chicago, Sept. 26, 1555.

#### THE PARIS EXPOSITION

EDITOR MERCHANT: The undersigned has recently been appointed. Special Agent of the Department Agriculture to collect viticultural and Citrus Exhibits for the Paris Exposition 1889, and I desire the cooperation and aid of your people who are interested in forwarding the interests of California in respect to those industries.

It is desired on the part of the Department to seeure a few samples of all approved varieties of grapes and citrus fruits in cultivation in the State, also all products in any state preferred for the market such as raisins, jams, wine, brandy, etc., also photographs of vineyards and graves, showing methods of cultivation, training, gathering fruit, also views of wine h uses and cellars showing also the different steps in making the wine or preparing the fruits or their product for market. Also all photographs of all tools, machines for use in such work especially new mountains, etc. Samples of fruits or wine or models of tools or machinery should be carefully labelled and packed and marked "Department of Agriculture," Washington, D. C. ("Paris Exposition" in corner.) Communications addressed to me at 21 Park Place, New York, will receive prompt attention. All expense for labor and packing will be paid by the D. partment or vouchers approved by me. I am,

Very Respectfully, B. F. CLAYTON, Special Agent. (Viticulture and Citrus fruits.) 24 Park Place, N. Y.

The Viticultural Commissioners have received from the United States Department of Agriculture, a cabinet which shows perfeetly the pests which afflict the vines in California and the East. The collection will be framed and placed in the new rooms in Platt's Hall. Exceptionally fine specimens of the p ronospera, authrocose and many other dis asis are in the collec-

The article in the last issue of The Men CHANT, entitled Pasteurization of Wines. was credited by mistake to Mr. Rising, Mr E. W. Hilgar I, Professor of Agriculture at the State University, was the author, and to him an apology is due for this error.

LATEST NEWS from the wine-making districts cannot be termed as favorable as it might be. The low percentage of sugar gives much treable in ferm utation. This is especially the case with the Zmfandel,

#### SEEDLESS SULTANA BAISINS.

A Great many vineyardists have planted the accelless Sultana grape of Inte years in the hope of being able to compete with the imported raisins of that variety says the Southern California. While some have turned out a very creditable article, equal in most respects to those from abroad, still the result as a whole has not been nearly so satisfactory as the experience of those who have devoted their attention to the raisius made from Muscats. The Sultana grape is a thrifty grower in many localities and bears large crops of fine-looking and fine-flavored fruit, but there seems to be a great ignorance as to the means to be adopted for converting it into merchant able raisins. As all know who have investi gated the subject, the imported Sultana is of a light amber color and is almost trans parent, while much of the California product is dark, has the natural bloom of the fruit still on it, and while equal, perhaps, in flavor so the foreign raisins, will not sell for more than half as much as the latter, simply because of the difference in appearance.

This difference is the result simply of the treatment of the Sultana grape before it is dried. The peculiarity of the imported Sultana raisins and the difference which characterizes its treatment, as compared. with the ordinary Muscatel, is that the frait, after being picked, is treated to a bath of water, olive oil and potash. More or less secrecy is obtained about the exact proportions of these ingredients which are most advisable to be used, and from in quiry it seems that there is considerable difference of opinion upon the subject. In fact those in California who have adopted the method are so loath to give specific directions upon the subject that the Sontu-ERN CALIFORNIAN is unable at present to say more than that a very small proportion of oil and potash to a large quantity of water should be used. Those who are using the process have arrived at what they consider to be the best results solely by experiment and consequently feel a little backward about making public the exact method fellowed. But with the knowledge that it is by dipping the grapes quickly into such a bath the amber, translucent appearance so much desired is to be obtained, it ought not to require much experiment by any intelligent man to hit upon the proportion of the ingredients which is best adapted.

### CALIFORNIA WINE IN FRANCE.

Mr. Paul Masson, connected with the celebrated wine house of Chas, Lefranc in San Jose has recently returned from a tour of several months in France. While there observes the Santa Clara Valley, he has paid strict attention to their wines and methods. tastes and critizisms, and in the light of a California experience of several years, he was able to derive great benefit from them. The season previous Mr. Lafrauc shipped several thousand gallons of wine and brandy to France by water around the Horn, being on the voyage some six mouths or more, and Mr. Masson was able to taste this identical wine and brandy and observe the effect of the long sea journey, as well as compare it directly with the native wines of Francs. He observed that the wine when shipped from here was very high colored, had lost something like 60 per cent of its what he can use as cook fruit for table use,

color, having assumed a sort of orange tint greatly admired in France, and it had improved greatly in flavor and maturity. Mr. Masson informs us that the criticism upon our California wine is that it has too decided and pronouncid a bonquet and flavor to be in exact accordance with the French taste. Compared with their best wines he says the strength of this perfume in California wines is very striking. By taking about two-thirds of a nentral wine of France and combining with it one-third of the highly perfumed California wine, the product is something very desirable, and suited to the French taste. Hs says the French people are surprised at the strong development of these perfumed qualities fu California wine. He thinks our common wines are greatly superior to the common wines of France, and are adapted to improve them greatly by blending. The loss of color during the long voyage detracts somewhat from its value as a blending wine, but the rapid maturity compensates in other good qualities. France imports great quantities of wine from Italy and Turkey, but it is the general opinion that the California wines are better than these importations.

The same criticism is made upon our brandy. It has too strong a perfume for the French taste. The flavor is good, the brandy is pure and of the best quality, but the flavor is not a Cognoc flavor and for that market must be destroyed and a true Cognac flavor imparted. The warm sun and the unexhausted soil of California produce such an amount of borquet as the French postril is not accustomed to, and this must be diluted and toned down to meet their views.

Mr. Masson also visited Agen, the great prune district of France. The fruit seems to be identical with that raised in California, but all the prunes are there dried by artificial heat, for the sun cannot be depended on for that purpose. The peasants and those having only a small quantity dry them in the brick baking ovens used in that country, while larger producers and prune makers on a larger scale use specially constructed dryers. Mr. Masson thinks the French prune does not lose so much weight in drying as does the California prune, although the latter seems to be more highly developed in sugar.

Mr. Masson says one may learn much about wine and other matters in France, but still a Californian can at the same time see where their methods may be improved, Tank cars are used there to transport wine on the railroads. They are made of iron, and coated inside with cuamel, after the manuer of our porcelain or granite ware for domestic use. Many of the points elicited in this interview are new and must be of great value to our wine men hers.

#### FANATICISM RUN MAD.

The Hudson Sun, an Iowa paper, contains the following: Judge Ney has instructed the Grand Jury to indict all persons known to manufacture cider for their own use or to be used in their families at home, and to indict those who manufacture wine of grapes grown in their own vineyards for home consumption and to indict any person who is known to give another person a drink of cider or wine that he has made from his own orchard or vineyard. This is Prohibition in the strict sense of the word. It remains now for those who have a surbut when he examined it there he found it plus of apples and grapes, over and above

or eat raw or sell, to ship them to another state and bave his cider and wine manufactured and ship it back to Iowa and drink it himself. By so doing it gives some moncy to the railroads for transportation and pay to eider and wine presses of other States, or let the surplus fruit rot in the field. We believe in doing everything nice and neat but too over much nicety is not at all times best for Iowa yeomanry. Under the pres-ent laws we think the fruit growing will to some extent be discouraged.

#### THE VINEYARDS OF FRANCE.

The prize of \$60,000, remarks the New York Times, offered some years ago by the French government to any one who should invent a remedy for that destructive disease

of the vine, phylloxera, has not yet been awarded, although experiments with some of the remedies proposed have yielded encouraging results. The losses caused by this disease are enormous. About one-half of the vineyards of France have been totally destroyed by it. Mr. Roosevelt, our consul nt Bordeaux, reports that the loss caused directly by the destruction of vines is thus far \$1,440,000,000, to which should be added more than \$760,000,000 expended for wine and dried grapes imported to make good the shortage, raising the total loss \$2,-000,000,000. The value of wine imported 9000,000,000. The value of wine imported into France to be "doctored" in various ways for use at home and sale abroad as the product of French vineyards, has risen from \$1,670,348 in 1875 to \$109,000,000 in 1887.

#### NATIVE WINE OUR SHIPMENTS BY SEA.

#### PER P. M. S. S. CO'S STEAMER ACAPULCO, OCT. 1, 1888.

#### TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	OALLONS	VALUE
J P	Trapoli, Berges & Co	1 barrel Brandy	48	\$87
F in diamond		50 barrels Wine	2,433	681
		74 barrels Wine	5,147	1,286
P N M	Carpy & Co	37 barrels Wine	1,850	690
44	"	1 half-barrel Brandy 5 barrels Wine	$\frac{27}{250}$	200
J R	"	12 barrels Wine	600	300
		4½ barrels Brandy	104	200
46	44	D barrels wine	752	465
••	Dustin k Luccei	2 harrels Brandy	99	220 102
T in diamond	Kohler & Van Bergen .	l5 half barrels Brandy	117	200
BD&Co	B Drevfus & Co	20 barrels Wine	2,440	1,252
A R	Dresel & Co	2 barrel Wine	100 152	45 61
C H S	60	6 barrels Wine	304	122
A & C A V Co	C Subilling & Co	15 barrels Wine	759	
K & F	Kohler & Frohbng	22 barrels Wine	1,382 1,105	829 895
M in diamond	S Lachman & Co	3 barrels Brandy	2,100	0.0
44	64	2½ barrels Brandy	30	575
A in diamond	J Gundlach & Co	10 barrels Wine	479	200
G B & C	**	5 barrels Wine	248	165
V in diamond	16	45 barrels Wine	2,233 3,373	$\frac{1,474}{2,692}$
S M Y	11 P Taylor Jr	1 case Wine		5
Total amount of Wine	I case and	********* ******* *********	23 802	\$11,726
Total amount of Brand	· · · · · · · · · · · · · · · · · · ·		697	

#### TO CENTRAL AMERICA.

W V B, San Jose de Qunt Lachman & Jacobi  4 cases Wine		\$16
" 4 cases Brandy		28
E.R. Acaintla Hellman Bros & Co. 30 cases Wine		110
E R, Acajutla Hellman Bros & Co 30 cases Wine	240	54
P & P, La Libertad B Dreyfus & Co 2 barrels Wine		115
C. C. S. B. C. C. Assisted D. C. Ass	102	42
C G M & Co, Acajutla R Cabrera		52
M H C, Puntas Arenas John T Wright 7 kegs Wine	245	172
B & C, La Libertad		
	41	25
E E T, Corinto A Greenbaum & Co 2 and ½ barrels Wine	102	54
J N J, Corinto Sperry & Co 2 barrels Wine	34	20
PB & Co, La Libertad LS Hass 2 barrels Whiskey	B3	183
PB & Co, La Libertad L S Hass 2 barrels Whiskey 5 barrels Wine, 5	215	463
B B, Champerico	25	19
M B, Puntas Arenas Wilmerding & Co 2 barrels Whiskey	80	280
H G in square, Corinto F Meeks 40 cases Wine	96	170
F P & Co, La Libertad Cabrera, Roma & Co 1 keg Wine	15	13
C H D, La Libertad Urrela & Urioste 2 packages Wine		20
		60
		51
If M, Acajutta [2 cases will control of the co	60	60
C. D. Acajuna O kegs winc		
I D & CO, Acajuda,		33
" 2 barrels Whiskey		188
" I barrel Wine		66
BB & Co., La Libertad Bloom, Burnch & Co., 10 cases Wine		42
"   1 half-barrel Wine	27	25
Total amount of Wine, 51 cases and	1,209	\$1,217
Total amount of Brandy,4 cases and		28
Total amount of Whiskey, 2 cases and	378	1,114
the discussion of the many and the state of		

#### TO MEXICO.

CH. Mazatlan	L F Lastreto 1 B	Barrel Wine	27	\$20

#### MISCELLANEOUS SHIPMENTS.

OESTINATION.	VESSEL.	aio.	OALLONS.	YALUE.
	Umatilla			\$334 1 651
11 11 11 11 11 11 11 11 11 11 11 11 11	J N Ingalls	Schooner	557	1,651 382 149
Nanaimo	Empire. Tropic Bird.	Steamer	58	20 539
	***************************************		5,105	\$1,581

Total shipments by Panama steamers. Total Miscellaneous shipments.	26,038 gallons 5,105 "	\$12,963 1,581
Grand totals	31,143	\$14,544

#### OLIVE RANCH OF 448 ACRES,

Or 240 neres in one place and 208 in the other. Sold together or apart, having 11,000 olives planted, and commence to bear in 1887. Fully equipped with buildings, agricultural tools, horses, etc. Sixty tons of hay and plenty of grain; fine stream of water. Title perfect, Situated in Santa Barbara county, near Los Olivos depot. Will sell at a bargain,

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JANUARY	1,	1880		750,000	1,160,017 00
JANUARY	1,	1885		1,000,000	2,181,925 18

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#### FERMENTING WINES.

AN AODRESS BY II. A. PELLETT.

To make dry wine, grapes should be neither under nor overripe, 22 to 24 per cent, saccharine, by Balling's sugar scale, will give the best results. Under 20 per cent, the wine will pe green or thin, while above 21 per cent, the fermentation will be difficult and the product heavy, alcoholic and deficient in the aroma and bouquet characteristic of dry wines.

We should aim to produce a light, wholesome and refreshing wine—a wine that used with reason, will act as a gentle stimulant and tonic, and take the place of the flery and brutalizing abominations which, by their too common use and indulgence, have been and still are the cause of untold uisery, degredation and crime.

BED WINE.

Tanks for the fermentation of red wine should not be more than four feet deep; the diameter is in material, and may be of any size best adapted to the capacity of the fermenting room. In large wineries I find tanks ten feet in diameter most convenient, on account of the working space afforded to remove the pomace after fermentation.

The tanks being ready to receive their charge, the erusher is regulated so as to simply crack the berries, allowing the stems and seeds to run through without bruising or breaking. Close crushing should be avoided, as the breaking of stems and cracking of seeds is liable to impart a harsh and disagreeable taste to the vine through fermentation. The tanks should not contain more than thirty inches of mush; twenty-four inches would be preferably and sufer, and not so liable to overheating. I am a great advocate of shallow tauks, a shallow amount of crushed grapes in the tank. Overheating in the primary cause of defective fermentation; to prevent it frequent stirring unust be resorted to, and in some cases, when the ferniratation is not kept down by that process, pumping overthat is, drawing the fermenting wine from the bottom of the tank and pumping it over the floating pomace-thas partially cooling and airing it, will stimulate and revive the ferment germs and materially assist fermentation.

Should this treatment fail (and it will fail occasionally) when the fermenting mass is too great, or rather too deep, you might have a tank twenty feet in diameter; if the mass is not more than thirty inches in depth, it will not then overheat. It is the great depth of the grapes that produce the heat; the carbonic acid gas cannot escape fast enough and produces too much heat. That is the cause of all our trouble. There remains but one alternative, and that is to draw off the imperfectly fermented wine into an empty tank, press the pomace, add the press wine to the former and while yet hot, crush fresh grapes into it, in amount equal if possible to the amount of "stuck" or imperfectly fermented wine. A small quantity will not do. You must remember that wine in that condition is sometimes 90 degrees and over of temperature.

Suppose you have a thousand gallons of imperfectly fermented wine in a large tank, that is the product of about seven tons of grapes. Ou the top of that I would crush again six or seven tons of grapes. There I have only one-half the amount of pomace in proportion to the amount of pince, and as pomace is the very thing that produces great heat, because the gas cannot easily escape, the new fermentation will take

place and continue to a successful termination within three or four days.

Three times a day record of the temperature of each tank should be taken; also, a record of the progress of fermentation. This can easily be done with Balling's saccharometer, which combines both instruments.

Grapes should no be crushed when hot, nor should the temperature of the fermenting room or at any time above 80 degrees Fahrenheit. Hot grapes crashed in a hot room, will almost invariably fail to ferment through by reason of everheating.

Wine, failing of a complete fermentation at the first operation, and refermented a second time, either by the addition of fresh grapes, or by any other method, will never possess the keeping qualities, nor the finemess obtained by a first and thorough fermentation.

As soon as the fermentation is over, the wive will have all the color and contain all the tannin that the grapes can produce. It will, therefore, be well to draw off at once and send the pomace to the press, no matter whether the wins he hot or not.

Some wine makers allow the wine and pounce to remain in the tanks until it is perfectly cold, with the expectation of obtaining more color and tannin. This is a great mistake, and the practice is responsible for much of the inferior, rank, and in some cases, diseased wine to be found in the producers cellars.

Stemming is opposed by some, while others practice it. The latter contend that the stems (provided they are not too green) impart durability to the wine. This question I will leave to others to argue. This much, however, I will say, that a better and more thorough fermentation can be obtained without stemming.

FERMENTATION OF WHITE WINE.

The grapes being crushed in a tauk (the depth and diameter of which is immaterial), the mash is allowed to remain jutact nutil the first indication of fermentation appears, when the must is drawu off into an open tank, the pomace pressed without delay, and the must expressed from the pomace added to it. There you have the first juice from the crushing and that also produced by the press. If the temperature of the must is low, the fermentation will be slow at the start; if, on the other hand, the temperature is high, active fermentation will immediately follow, a thick scum will soou farm and float on the surface of the must; this scam, composed partly of light impurities and of partially spent ferment, of a brownish color, should be carefully removed by skimming, repeating the operation at intervals until the scum changes its color to a white froth, when further skimming is unnecessary.

When the fermentation is half through, that is, when the sugar scale indicates from 10 to 12 degrees, the must is transferred into puncheons of the ordinary size, say one hundred and sixty gallous, filling up to within six inches of the bung; in three or four days the fermentation will be completed.

As soon as the fermentation is over, which is readily ascertained by the saccharometer, or even by the taste of the skillful vinter, the casks should be filled, and either a sand hag or some other contrivance placed over the bunghole, to prevent impurieties and accept of air to the wine.

In proportion to the amount of jnice, and as pomace is the very thing that produces great heat, because the gas cannot easily placing it over the cask. If it is through, the match will burn; if it puts the match I went to the drag store and bought some awards in the state.

You can ascertain very casily when your was my opportunity, and as my

out, there is gas, and the fermentation not extra strong carbolic soap, made a pretty

One week later, there being no fermentation, nor carbonic acid gets evolved, the casks are again tilled and bunged. This process of partial fermentation in open tanks, I claim, offers the following advantages:

First--The blending of the must from the crusher and the press, the press wine being indispensable to the former, containing as it does, the necessary amount of taunin, and other flavoring properties, which constitute fine, sound and durable wine.

Second—The removal of the lighter impurities by skimming, and of the heavier by settling, before the wine is transferred to the storage easts, thereby insuring purity, and speedy settling and clearing of the wine.

Third—Uniformity of the temperature and of the stage of fermentation, when transferred from the tank, as well as uniformity of the quality of the wine, and the certainty of its thorough and complete fermentation within a short period of its transfercuce from the tank.

#### TETTIGONIA VITES.

The above is as near as I can get at it, the name of the insect spoken of by M. Sagar, says D. S. Marvin in the Vineyardists of July 1st, as increasing so rapidly in the vineyards of the lake region, under the name of "thrip." First named by Harris in 1831, and alinded to by our State Entomologist in his report for 1885, as not having been well studied, and supposed to belong to the genus Eyrthraneura and not Thripidae. You published an article from me last season upon this topic and another commenting upon the same by the State Entomologist. In addition to what was then said I desire to add that I have been carefully studying these insects the present season, and it gives me great pleasure to add that I have been able to mainly control them, so that if I am to take the seasons experience as it now stands, I no longer fear the insects, or the several insects suspected by the Entomologist, but as to this point, I desire to add that I appear to have but one insect to contend with here. To be sure there appears, upon a cursory examination with the glass, to be a number of iusects of different sizes and colors, but they seem to me to be only different stages and degrees of development of the same one. As the season advances they leave the surface of the soil and line and bred upon the foilage of the vines. Previous to the present season I had confined my efforts in subduing them to syringing the vines with tobacco and various other solutions, after the insects had become so abundaut as to seriously injure the vines. The failure of this treatment was obvious, for the insects were increasing year by year, so much as to threaten the extermination of all the thin leaved species of the vine, and especially young vines just starting. Upon seeing and realizing that all my efforts had resulted in failure, I resolved to give more attention to both observation and experiment. I found that these insects began to hatch or appear much earlier then I had supposed, and that they were mainly confined to the lowest points in the vineyard early in the spring, away from the wind aud where there was the most heat and shelter of dead air. Herein I conceived was my opportunity, and us I had failed with the tohacco, pyritheum and other liquids,

strong solution, got out my Woodasan spray bellows and went for them early in the morning, while the sun was but an hour or two above the horizon and the insects above the base of the vines, not yet thawed out enough to get away from the spray, so that I could wet down whole colonics of them in a short space of time. There was some pretty lively jumping and scattering as I would spray the ground and the base of the vines. I kept at it for some three or four weeks, every other day, in May, or until the insects became so scarce that I could not see any more of them. I spent perhaps an hour each morning. The result of it all is that at this date, July 15, when I desire to find a few of the insects for study under the glass, so as to be sure of my facts for writing this paper, I had difficult in procuring enough insects for stady. At the same time the weather has heen very airy and hot, exactly the conditions favoring their breeding and multipli. cation. Towards the last, my carbolic soap being pretty much used up, I added enough London purple to color the water. apparently with equally good results, but I observe that the leaves of the vines were more affected. "One swallow," I concede, "does not make spring," but if, upou repetiton next scasou, the same results follow I shall feel that I have practiced a method that will destroy the worst insect enemy of the vine in New York, and given our vineyardists a smiling instead of a gloomy countenance.

It will seem that it is too late in the season now to do much, since the insects have spread upon the foilage of the whole vineyards and are found mostly upon the under side of the leaves, nuless the fruit is sacrificed to save the vines in the lowest and worst affected localities, for my experience has been that poisons so injure the fruit as to make it dangerous and unpresentable. Packard gives a cut of auother insect much like this, but not ours. The life history of the genus does not seem to have been studied. I give the result of my studies and experiments now more to prepare for and encourage this kind of exploiting and ouslaught apon the enemy next spring, when the conditions will be favorable to successful work now, and encourage faith and hope in the operations of the vinevard.

Well, no, thank you gentlemen; I have a very good watch now, but, if you insist, I might hint that I am a pretty lame old soldier, and that I might possible stand it to he caused by those who are herein hene fitted.

#### LOS GATOS WINERIES.

The San Francisco Herald of Trade says that the vineyards of Los Gatos rank among the best in the state. There is an extra deposit of tannic acid and coloring matter in the skins which make the grapes raised have especially adapted to the making of the claret of the Bordeaux type. There are two wincries, both doing an excellent business. The Los Gatos and Saratoga wincry, situated about midway between the two towns, has now a capacity of 1,000 tons and has been making considerable culargements for the vintage, including a hleuding-tank to hold 15,000 gsl-lons. It is carrying over a stock of 1886 and 1887 wines for the purpose of ageing. The company, which is limited to a few of the largest vineyardists in the neighborhood, only treats its own produce, and its wines have received some of the ligest awards in the state.

#### A MAMMOTH WINERY.

The Anaheim Gazette of this week gives an interesting description of a visit to the great Dreyfus winery. The following are extracts: The main building is 200x86 feet and is massively built. Two large grape elevators receive the product of the vine by wagonloads. After being weighed the wagons are driven to the elevators and rapidly unloaded. The grapes are conveyed to steam erushers on the third story, were they are subjected to the steaming and reducing process. The elevators work upon pulleys, being an endless succession of receptacle which convey their freight to the crushers and return to the wagons to be bonded again. The capacity of the winery is 120 tons of grapes per day. As there are m one ton of grapes nearly 150 gallons of must, it will be seen that the winery is enpuble of reducing grapes to the extent of 18,000 gallons per day. Twelve hundred tons of grapes have thus far been crushed this season.

On the first floor, the first thought to strike one is that some of the large wine easks with which the building is stored have sustained a serious leak and that the precious juice of the grape is escaping in streams sufficient to form a well sized irrrigating district. Visitors are at once assured that the noisy torrents are nothing less then the juice of the grapes descending in streams from the crushers into mammoth wine casks upon the second floor, Wending the way to the third story, grapes were seen rising in continuous elevators. Here they go through their first process upon their way to become part of the product of the State,

The winery contains at present over 600, 000 gallons, and it is possible that before the end of the season this amount will be doubled. Grapes are purchased from many vineyards in the northern end of the county, and in a few days grapes will be shipped here from Los Angeles. The winery has a side track from the Southern Pacific, where all consignments are placed, when they are at once conveyed to the elevators. The wines manufactured here have a worldwide reputation, and grace the tables of famous connoisseurs, Mr. Weglein is an expert vigneron and superintends the wine making in person. The winery and its contents are valued in the neighborhood of \$100,000, it gives employment to a large number of people, and is truly one of the establishments of which our people are justly prond.

With regard to the blight prevailing among vineyards in this portion of the State, Mr. Weglein is of the opinion that it is caused by climate influences, is purely temporary and will die out in short order, when vineyards will again resume their favored place. With regard to the statement made by a certain microscopist that he had discovered animalcular feeding upon the heart of the vine, both Mr. Weglein and Mr. Krebs pronounce the same erroneous, The following gentlemen has subjected diseased vines to the minutest examination during the past three years, as have nndoubtedly many of our vineyardist. No wormy pest has been discovered and no tracea left of its ravages. The experiment of the State Viticulturist, to inaugurate an experimental plat of grapevines in this sectioo, and will undoubtedly result in scientific observation which will certainly rebound to the welfare of all. The thought is prevalent, however, that a solution of the difficult will soon be forthcoming, and that the perience alone can give, while the vines of paper west of the Rocky Mountains.

grape blight will result withal in being kin- America, practically, are hardly entitled dred to climatic influences which ravage yet to a golden wedding. Nevertheless, fruit and creals the world over.

California has not yet discovered the secret of the French in regard to blending grand wines. This is only from a connoisscur's point of view, and probably not one in a hundred wine-drinkers are able to distinguish between the qualities of the two products. Moreover, the wines produced in European countries, and which to a limited extent attain to the name of grand wines, are consumed principally by the erowned heads through out the old world These families have unquestionably ac quired a taste for their favorite grade of wines, which are undoubtedly of rare exectlence, and this cannot be eradicated so long as their favorite vintages are at hand. however, it is the opinion of many winemakers that our wines will one day outrank

George Rice, Commissioner for the Los Angeles District, acting for L. J. Rose, reports as follows: Notwithstanding the tendency throughout Southern California to subdivide large tracts into smaller ones and some large ones into lots. I find that the vine interest has not been neglected The planting of cuttings last season has been about 17 per cent of all planted lost before. The planting has been of the choicest varieties that experience has shown to be the best. Better arrangements for making grapes into wines and brandy have been made and more attention given to details. The grape and wine growers are alive to the subject, and many expect to continue to make wine and make it most profitable. The prospect for this year is exceedingly good with every assurance of a full crop.

#### WINES AND BRANDIES,

In retponding to the toast, "Wines and Brandies" at the banquet recently given the visiting delegates to the National Protective Convention at Delmonicos, New York, Mr. Charles Renauld is reported in Bontort's as follows:

"Without expatiating, as is customary on such ocensions, I believe, on the state of my personal feelings, or endeavoring to explain how unexpectedly 1 am called upon to address you I wish to thank you for this opportunity of making a few dry remarks -wet be the subject.

I know it is very wrong to tell stories, and I desire to add that I was so taught during my childhood, for I would not have you think that I have learned the fact from experience. But the invitation of our worthy chairman forcibly reminds me of a story. Let me tell it to you briefly.

A boy was required to write a composition on "The difference between the animals of America and Europe." Although he scratched his head, he was not embarrassed-boys never are until they have passed for:y -and be acquitted himself of his task by penning the following concise patriotic essay: "The animals of America are generally smaller than European unimals-but-but they get there all the same,"

Now, gentlemen, it strikes me that this would be a very appropriate epiphonema for what I might say on the subject of "Wines and Brandies here and in Europe."

Between these productions of the two continents there are two main differences.

First, the wines and brandies of Europe come from vines that have been nursed for centuries with a consummate skill that ex-

we see the American vine lending youthful vigor and hardiness, to its refined but enfeebled sisters of Europe, and enabling them to withstand the deadly attacks of phylloxera. It is not presumptuous, therefore, on the part of the American grower to think that, with care and time, hes products will, in the words of the boy, get there all the same.

After this admission of an importer, I trust, gentlemen, that I am entitled to an equivalent, and I would add that it were better in every way if American products of the vine censed, as some have done already, to borrow foreign names, and if excuse the simile -they sailed under their own colors. To give a dog (I take the word in the sense of devotion and faithfulness) a bad name may ruin bing; but to give him a good one is not necessarily the making of him.

Second, the wines of Europe are made in countries where wine is drunk, while we all know that in America our people, as a class, do not drink wine. More is the pity, for wine is certainly a drink more wholesome than ice water. It is the best preventive of abuse in the consumption of alcoholic beverages, enphemistically called, by those who prefer the dark side of the door " stimulants, " And my friend Col. Leoser, who is a great statistician, could prove to you that the country of all which has the greatest per capita consumption of wine shows of all the least drankennness. And here, gentlemen, our American wine grower has a mission to fulfill-a mission worthy of the name, regardless of any tariff advan tage, for home consumption will be worth to him one hundred protections-to place sound wines within the reach of the people, the laboring classes-man, woman and child-and to teach them that it is not wrong, but good and right to use what was given us by Providence, and to use it not in concenhment, but openly, with the courage of their opinion, thus avoiding at least one sin-hypocrisy.

Enough is beneficial, to much is injurious. Where, then, is common sense? In abstinence? No; but in moderation which in all things is the rule of well-conducted

Why, gentlemen, we are all temperance men-we of the wine and spirit trade as well as our friends on the other side of the house. But we do not, perhaps, agree on the scope of the word temperance. With some it appears to only abstinence from at coholic beverages; while with others, inclu ding " Webster's Unabridged, " it signifies " moderation in the indulgence of appetit s and passions. " This broader sense should I think, be necepted by all those who spurn fanaticism and prejudice, who claim for themselves no right they are not ready to minded and sincere. Ah! gentlemen, sincerity and liberal-mindedness, these are the two infaul industries that need protection. Let them be fostied, and all will be with honest men. And when we all think less oftener of our rights and others! duties, and more oftener of our duties and others' rights then, perhaps even our good friends of the blue ribbon will see, as we do, that there is some foundation for the saying of the aucients-they were not tectotalers in cino

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#### CAUCASIAN WINE.

The following information respecting the trade in Cancasian wine is extracted from a recent report by the British Vice-Consul at Batoum: " Caucasian wine, though a produce known in Trans-Caucusia since the times of Noah, and very extensively produced and consumed by the native population, has only during the last few years become an article of export. The quantity shipped in 1887 to foreign countries was small, about 50,000 gallous. Much larger quantities are yearly sent to Russia proper and considering the practically unlimited area available, and the exceptionable capabilities of this country admitting the cultivation of the vine, the netual very extensive local production of wine, and again the improbability that a substitute could easily be found for that produce, one can not but admit that there are some fair chances for the Caucasian wine to become a more important article of export in the future; and, inasmuch as it affects the interests of the bulk of the native population, it may, in the course of time, prove a more valuable and lasting resource of wealth to this country than the now all-engrossing Baku petroleum trade. The present price of native wine varies, according to the quality of the produce from 1s. to 2s. per gallon."

#### CHINESE GRAPE-PICKERS

The Fresno vineyardists are having a great deal of trouble with their Chinese grape-pickers this year, says the Traver Advocate. A few seasons ago this class of labor could be secured at almost any price. but since the Chinese have secured exclusive control of this branch of industry they have become arrogant and self-important, and this nothwithstanding the fact that they are receiving \$1.25 to \$1.50 a day -a large are receiving \$1.25 to \$1.50 a day -a large through the strike if white foreman is put over them, if a Chinese foreman urges them to work faster, if they do not think they are getting enough They give no cause for striking, but quit work and a vineyard without a word of xplanation, leaving thousands of dollars worth of grapes to min upon the vines The grape growers and manufacturers who have fostered Chinese labor are finding out that the little yellow man will not always remain a serf, but that, when he becomes master of the situation, as he is at the present time in this industry, he will crack his whip over the head of his former master and make him dence to a merry tune. However, the result of the strike in the vineyards among the Chinese this year will be their displacement to make room for young Americans from the country towns young Americans rem to and cities of Culifornia, adding to our pro-gress by encouraging industry and keeping at home the thousands of dollars which the Chinese grape-pickers have been send-ing annually to their native country,

For Public Administrator,

# grant others, and who, in short, are fair- JAMES C. PENNIE

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# Registration for the General Election,

All electors desiring to vote at the General Election to be held Novemb r 6, 1888, must be registered regardless of any previous

registration.

R gistration for the General Election to

R gistration to the determine the tendence be held November 6, 1888, will commence at the Office of the Register of Voters, in the basement of the New City Hall, on WEDNESDAY, Angust 8, 1888, and will continue until MONDAY. October 15, 1888, and will continue until MONDAY. October 15, 1888, and will continue until MONDAY. inclusive. Office hours from 9 o'clock A.M. to 5 o'clock P.M.

The registration of voters in the precincts will be held from October 16th to 20th inclusive. By order of the Board of Election Commissioners.

BEN. A. PRINDLE, Commissioners, August 4, 1888.

Regi trar.

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tation of young wines

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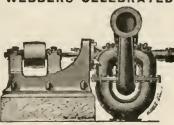
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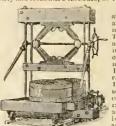
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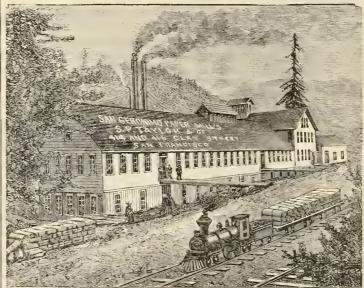
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VITICULTURAL PAPER IN THE STATE. ONLY THE

Devoted to Viticulture, Olive Culture, and other Productions, Manufactures and Commerce of the Pacific Coast.

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SAN FRANCISCO, OCTOBER 26, 1888.

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### THE OLIVE.

PROGRESS OF THE INDUSTRY IN CALIFORNIA AND ARIZONA.

An Interesting Report on the Unilivation of this Vatuable Tree by the P.S. Commissioner of Agriculture.

The olive (olea Europea), with the date and other semi-tropical fruits, was early introduced into California by the mission fathers. It is found to-day as a remnant from the Old Mission garden, but owing to neglect the trees are generally not doing well in these places, particularly on account of the presence of a species of black-scale (Secanium olea), which appears to be a oa. tive of the State. The first attempt at making olive culture a matter of real interest does not date back much further than 1872. The person with whose name olive culture is justly associated is Mr. Elwood Cooperof Santa Berbara. In February, 1872, he set out his first trees. In 1876 he produced his first oil. His plantation now consists of about 80 acres. The plantation is located about a mile from the sea, 12 miles north of Santa Barbara, the climate being very mild, and during the summer subject to heavy fogs from the ocean.

When reaching a certain age the trees have alternate years of heavy and light rropa Mr. Cooper has tried the experiment of planting out trees on successive years, hoping thereby to have a part of his plantation heavily laden each harvest The experiment was not a success. For a year or two some difference in the bearing will exist, but after a while the one coudition, light or heavy yield, would be general.

A partial remedy for this habit might be had in a suitable system of pruning, but Mr. Cooper has not found profitable any system he has tried.

Several other large plantations have been set out in Santa Barbara County, one in Santa Inez Valley being especially prem-

In San Diego County the Kimball Brothera, of National City, were among the first to plant the plive on the mesa lands near the bay of San Diego. The rain fall there being very scant, some irrigation has been necessary. The clive ripens there in Octo-ber and November, and the yield is early

and good; young trees bearing a few gallons of berries at the age of four years, and some trees at six years yielding as high as there, nuless from the water rising too near 30 gallons,

Mr. F. A. Kimball built last season a press, and a fair quality of oil was made, which has been marketed this year.

In the El Cajon Valley Mr. Levi Chase has a very fine orchard, bearing well.

About the thriving settlement of Pomona, in Los Angeles County, a number of olive trees have been planted. The Rev. Mr. Loop has a number of large trees, which at the age of ten years averaged 35 gallons Mr. White, of the same place, planted several acres of olives. They commenced bearing at about five years old, and increased rapidly. In Pomona are also some of the largest trees in the State, some of them being nearly 2 feet in diameter near the ground. Mr. White has a number of varieties on trial, but so far the Mission and Picholine are the only ones tried. Of the Mission variety there are here evidently two kinds, according to Mr. Loop, one rig. ening very much earlier than the other, the first ripening being small and the late ripening large. At San Fernandino Mission, in San Fernandino Valley, the old trees, nearly seventy-five years old, were cut back and are now fully rejuvenated and bearing heavy crops. In other portions of Los Angeles County there are trees planted in many places. The largest orchard is that of Mr. C. J. Hopkins at Pasadeus. They consist of Picholine and Misssion, and the trees are five to six years old. At San Bernardino we find olive trees bearing in the gardens of the town. At Riverside, at the opposite side of the valley, the olive has grown to large size, but the complaint is made that the trees are not so prolific. The cause is undoubtedly too much or too little irrigation. We have seen on the grounds of Mr. H. Bliss young trees seven years old leaded with fruit, producing probably 150 pounds of olives.

Some trees have been planted in Fresno county, but they are yet too young to give a record. The only trees which have come under our observation are grown on the Fresno Vineyard Company's property, east of tewn. The trees looked bright and healthy, were in their fifth year, and have set some fruit. The soil here is a red-colored loam; the trees are irrigated.

which I have been nuable to learn. There is no reason why they should not succeed the surface, caused by too copious irriga-

In Stockton, San Josquin County, the olive bears well, although the heavy adobe land in the immediate vicinity can not be considered adapted to its best development.

San Luis Obispo, Monterey, and Santa Cruz counties have all proved more or less adapted to the growth of the olive with the exception of the effects of the black scale in the moist parts of these counties. In the interior part of the first-named county large orchards are being planted this sea-

In Berkeley, Alameda County, at the University, there are growing two trees planted in 1872. At first they were totally neglected, remaining in consequence but barely alive for the first two years; but when cultivated grew rapidly and produced at eight years 50 pounds of olives; at ten years their yield was 100 pounds each; at twelve years the yield was 225 pounds each, the crop of alternate years being quite small. Still the location must not be regarded as an altogether favorable one.

Mission San Jose, -At the old mission grounds, in Santa Clara County, now the property of Mr. Juan Gallegos,, a number of old large trees are growing, planted about one hundred years ago by tha mission fathers. According to Mr. Gallegos these trees were perfectly free from black-scale until about nine years ago, when he thinks it was introduced with some orange trees. Before the advent of the scale the trees did exceedingly well. By severe measures, entting back, etc., Mr. Gallegos has managed to bring them back to productiveness. The soil is mostly of a decidedly heavy character,'a black adobe in many instances.

In many portions of the county young olives are being planted. Irrigation is not practiced.

In Santa Clara County exists the largest olive orchard in the central portion of the State, on the Quito ranch, 5 miles from Los Gatos. The oldest trees on the place are twenty years old, but the majority of the trees, some 3,000, are only eleven years old. half of which were transplanted, being too close together. The trees were topped back severely and have all done well, and in two ord as having borne, the exact yield of the yield of 1,000 trees which had not been Wolfskill, and many of them measure over years commenced bearing some. In 1884

removed or pruned severely amounted to 21 tons of olives, part of which was made into pickles and part into oil. In 1885 the yield was very light, and also in 1886. This season it premises to be good, but not as good as was expected last spring. The soil where the orchard stands is a gravelly loam and the land level; no irrigation for young trees has been practiced. Olives are found in various portions of tha valley doing well without irrigation.

#### NORTHERN INTERIOR.

At Saint Helena we have seen several trees of the Mission variety growing on the farm of Mr. Llewelling. The oldest trees were planted ten years ago, and began bear ing five years after, alternately light and heavy crops; received no irrigation, and are about 15 feet high and 8 inches in diam-

At Oak Knoll, the property of D. Melone' 5 miles from Napa City, we have seen specimens of olives bearing for some years.

A most interesting experiment from this section deserves especial mention. In November, 1881, Mr. A. Flamant, of Napa, set out in the hills west of the town several thousand rooted cuttings of the Picholine variety. Ilolea about a foot deep were dug, and in many instances the little trees were planted on the rocky soil, and earth enough to cover the roots had to be taken from elsewhere. During the sommer hoeing was done sufficient to prevent baking of the ground, but no irrigation was practiced-In the most exposed places probably 10 per cent. died, but were replaced next year In the summer of 1887 most of the trees were in good condition, and having reached a height of 6 feet during three seasons' growth. Certainly a very encoureging showing, considering the quality of the soil.

The olive has succeeded well in the county of Sonoma in a number of different locations, the oldest and best kept orchard being that of Mr. George Hooper, near Glen Ellen, who this year obtained the prize for the best oil exhibited at the Mechanics' Fair in San Francisco.

From Lake County our material for drawing conclusions as to the adaptability of the clive is rather scant, but the instance on record seems conclusive in its favor In Solano County, near Winters, on Putah Creek, exist probably the largest trees for their age in the State. They were planted twenty-five years ago by Mr. John R.

6 feet in circumference. The trees have borne heavily every other year for several years past, though for some reason the crop the last two years has been light. In Pleusant and Vaca valleys there are young olive trees in different places, all doing well. In Volo County, at Woodland, the olive is met with, but yet too young to judge its yield. In the city of Sacramento the clive bears well, but is more healthy on the plains near Florin, where Mr. S. Lea has a paying grove.

About Marysville, in Yuba County, the elive does well and bears abundantly on the sediment lands, as well as in the adjoining county of Sutter. Butte County has many large trees. Mr. George Wellet has some trees twenty-three years old which are 30 feet high and fully 15 inches through at the base. From eight of these trees, two years ago, were made 64 pint bottles of oil, besides giving 2,000 pounds of berries for pickles. At Chice, Gen. Bidwell has sevcral large trees equally as fine, planted eighteen years. They have been bearing heavily at least every other year since the sixth year from setting. Colusa County, as well as Tehama, has young olive trees

FOOT-HILL REGION.

The following is an extract from the writer's report to the State Board of Horticul-

Placer County, Penryn.—The oldest tree about Penryn is a tree growing on Orange Hill, the property of W. R. Strong & Co. The tree was planted six years ago, then probably five years old, but very small, and although grown without care, having repeived no water (except from seepags from neighboring trees which have been irri gated), is a rebust bealthy looking tree about 15 feet high, with a crown diameter of about 10 feet, and 8 inches through at the trunk The tree has borne for a number of years, and last season produced somewhere near 150 pounds. This season it is bearing considerably. Scattered through the orchard are a number of olive trees of various sizes. The soil is a redcolored so-called rotten granite (syenite). These trees are irrigated, with the rest of ths orchard, and some few are in bearing, having been planted about five years.

P. W. Butler has a large number of olives, both of Picholine and broad-leaved Mission, planted along avenues running through the place, which, like all the country, consists of rolling bills, with a similar soil to that mentioned above. The trees vere planted five years ugo, then small trees, and have received liberal irrigation. They are about 12 to 15 feet high, and commenced bearing last year. The Picholines are full of fruit this year, which was ripe some time age, much baving dropped off; the Missions are not fully rips now (middle of December). The fruit has not been utilized before this season.

Newcastle,-Mr. Charles Gould, below town, has three fine clive tress about ten years old, which have been bearing for a number of years. The trees are 8 inches through at the base, with large crowns, The trees (Mission variety) were loaded last season, but the crop is very light this year, though the fruit is of large size. In the town of Newcastle is found an olive tree here and there. Dr. Frey has a tree in his yard doing well, with the exception of the fruit being infested with the Diaspinous scale referred to before. The soil is similar to that about Penryn.

eral good-sized olive orchards, the oldest of these being that of Mr. L. A. Gould, some 3 miles from town. The majority of the trees are the so-called Picholine, which evidently here are five weeks earlier than the Mission. The oldest trees are about seven years, and are bearing quite full, one tree producing 70 pounds; their average height is about 12 feet; the habit very dense. Some oil was made from the Picholine this year, but is not clarified yet.

Beside the Mission varieties and these Mr. Gould has, are two other varieties of olives, one considerably smaller than the ordinary broad-leaved Mission, but of the same shape. Also a variety obtained from Mr. Kock, of San Jose, called Oblonga, of a peculiar almond-like shape. Although a very small tree, it is leaded with fruit, ripening a couple of weeks before the Mission olivs here.

Irrigation has been practiced to some extent by Mr. Gould. The soil is of slaty formation, and the trees seem to thrive equally well on shallowest as on deepest soil. No signs at present of the black scale.

Mr. F. Closs, a mile or two from Auburn. has quite an orchard chiefly of Picholine the soil is similar to that of Mr. Gould's and the trees are doing well.

Dr. Agard: About 25 acres in all have been set out in olives by this gentleman of both Mission and Picholine. The oldest trees were planted two years ago (rooted trees), and are about 5 feet high, are branched low, with only about 1, foot of trunk. In spite of the little irrigation these trees have received (10 gallons apiece during the first summer, 15 gallons this summer), the growth has been uniformly good, Dr. Agard reports, however, a much greater loss of Mission trees than of Picholines.

El Dorado.-The climate and soil of this county being very similar to Placer, we have no doubt that a great deal of land of the county is well adapted to the olive. We have learned of one gentleman undertaking the culture with success without irrigation, but have not been able to ascertain anything definite about it. About Coloma there are several trees scattered which have commenced to bear.

There is now growing in this State a large number of varieties of olives, imported by enterprising citizens, nurserymen, and others. France, Spain, and Italy are rep resented in these varieties, of which so few have yet fruited that correct opinious cannot at present be formed on any but two.

#### THE MISSION OLIVE.

There seems to be really several kinds Some claim to distinguish six varieties as belonging to the family of oval-shaped olives, of which the Cornicabra in Spain is the type, though M. Tablada, the wellknown authority on olives, contends that the exact counterpart of the Mission olive is not to be found in Spain, and it is therefore likely that it was originally raised from seed brought by the fathers from Mexico. The same authority pronounced our Mission olive a superior one for oil. The Cornicabra class is considered a hardy but late ripening family of olives. Its latter character here is somewhat of an objection in the cooler coast climate. For this reason experiments with the early-ripening varieties, as the Nevadillo Blanco, are of great interest. A well-grown Mission olive weighs one-sixth of an onnce, is of an oval shape, and when fully ripe is of a purplish-black color. The pit is of a comparatively small size. Well-made oil from this variety is of

is the fact that at the World's Exposition in New Orleans Mr. Elwood Cooper's Mission olive oil was awarded the first pra-

The Picholine,-The late B. B. Redding, Esq., a far sighted gentleman of means, and one who had the greatest faith in elive culture, imported directly from France a number of varieties of olives, which were planted on his ranch near Sacramento. Of these, it appears that all but the Picheline Unlike the Mission, this variety readily propagates from cuttings, and thus soon became generally distributed. Whether or not Mr. Reading was aware of the character of this olive we do not know, but after his death it was propagated supposing it to he a large pickling variety similar to the Spanish Queen, but when the tree first fruited it proved to be a small oval olive weighing about one-sixteenth of an onnce. Whether this is the true Picholine we are not qualified to decide, since no adequate description is at hand. Its chief merits with us are, compact, vigorous, and hardy growth, ripening six weeks earlier in a cool climats than the Mission. Its small size is somewhat compensated for by the ease with which it may be stripped from the branches.

#### PROPAGATION.

In this State it has generally been done by cuttings and layers. As regards the Mission olive, the surest results are obtained from layers, though in Southern California the preferred way has been by large cuttings, as described below :

The common and preferred method is to plant the cuttings taken from the trees of sound wood from three-quarters of an inch to an inch and a half in diameter, and from 14 to 16 inches long. These cuttings. should be taken from the tree during the months of December and January, neatly trimmed without bruising, and carefully trenched in loose sandy soil; a shady place is preferred. They should be planted in permanent sites from February 20 to March 20, depending upon the season. The ground should be well prepared, and sufficiently dry so that there is no mud, and the weather should be warm. In Santa Barbara, near the coast, no irrigation is necessary; but very frequent stirring of the top soil with a hoe or iron raks for a considerable distance around the cuttings is necessary during the spring and summer. About three-fourths of all that are well planted will grow. My plan is to set them 20 feet apart each way, and place them in the ground butt end down at an angle of about forty-five degrees, the top to the north, and barely cover. Mark the place with a stake. By planting them obliquely the bottom end will be from 10 inches to a foot below the surface.

This mode of propagation, especially in a changeable climate, is liable to several objections. One is that the large cuttings often remain dormant for several years, thus causing an uneven stand. By first rooting the cuttings in unrsery rows this of course is avoided, but never will so fine a root system and one almost equal to that from seedling plants be developed, as by starting the trees from small herbaceous cut-

For at least the cooler parts of the State ws do not hesitate in recommending this method: Take from young growing trees the top when neither very soft nor perfectly hard, having three to four sets of leaves,

course of three or four months the little cuttings will have rooted, and should then be petted in small pots, where they should remain until well rooted. In a few months more they will be found ready to set out. When very warm weather prevails a thin mulching around the little tree may be advisable, but when a moderate temperature prevails a few waterings in a month will be all that is necessary, and even this only in unfavorable springs. It should be added that nothing is gained by setting out the trees before the soil is warm, as they will not grow. The trees referred to previously as planted in Santa Cruz Mountain were propagated in this manner, and have received no irrigation since setting out. Trees raised from such small cuttings resemble closely young seedlings, and form a beautiful root system.

To get cuttings from large truncheous, such as are imported from Spain and other countries, proceed in the following manner: Cut the truncheons in pieces about 18 inches long, split those pieces in two, put the balves so made in the ground horizontally with the bark sids up, covering with soil 4 to 5 inches deep. Let such bed be in a warm well-drained place, kept moderately moist. In a few months a large number of young shoots will break through the ground. When of a suitable size and hardness, as before described, take the cuttings and treat in the manner previously mentioned.

The raising of olives from seeds has not been practiced to any extent in this State. principally because the Mission, the chief one, has a very small proportion of good kernels. The Picholine, so easily propagated from small cuttings, affords a convenient grafting stock. New varieties bave been budded in the ordinary way on the Picholine by our enterprising nurserymen, but it is evident from the number of failures, lately learned from Mr. White, of Pemena, that he has successfully grafted the Picheline on Mission stock by means of common cleft grafting, using quite small grafts. The work was performed in April, out of doors, without any special care other than that used by grafting other trees. We refer to this because we know of no other instance where outdoor grafts have succeeded. Grafting on young roots under glass has been practiced by nurserymen to some extent.

#### GENERAL CONCLUSIONS,

We have seen that the clive flourishes over a large area of the State, and perhaps it may be safe to say that no other fruit-tree is destined to be cultivated throughout such a great extent of this country. Innumersble hills and mountain-slopes skirting our coast valleys, too dry to support any other tree without irrigation, bave in the olive a tree especially suited to them. The climate of these bills is nearly always warm, the frosts come late and disappear early in the spring, their nature being such as to provide the drainage that is one of the essential conditions for the healthy growth of

In other regions, in the richer valleys sither of the warmer or cooler sections of the State, there is no doubt that, suitable kinds being selected for each, all varieties may here find a home. Here as elsewhere the usual questions of soil, climate, diseases, and insect enemies must be considered, the last named not being least, particularly the Lecanium olea, before mentioned. seemingly a native of the State. This scale that about Penryn.

Auburn.—In this neighborhood are sevsuperior quality; indeed, one proof of this Put in a little frame with sand. In the drawback in all places near the sea coast,

and will thrive even as far as 50 miles from it. As a general thing it becomes scarcer as we leave the coast, but not until we enter the dry climste of the interior valleys can it be defied altogether. Thus we find: hardly a trace of it in parts of San Bernardino County and on the foot-hills of Placer County, where the olive flourishes and bears remarkably well.

If this immunity from the black-scale, which in California has proved to be one of the greatest drawbacks to olive culture, is not counterbalanced by other evils, such as drying winds blowing at the time of blooming, it would seem plain that the olive grower might better leave entirely the coast regions and its influences. I expressed a similar doubt on the question a few years ago in an article recently republished and 1 believe now, that there are regions less subject to the corth winds, and which probably will prove better suited to the growth of the olive than any other portion; we refer to the foot-hills of the Si rra Nevada Mountains at an elevation from a few hundred to two thousand feet. It seems, however, that even there we cannot escape the attacks of all kinds of insects ; for to my surprise I found a species of diaspinous scale infesting leaves and fruit of the olive at Newcastle, Placer County. This scale proved to be Aspidiotes nerii, the oleander scale, which infests the latter tree in the driest part of the State. This pest, however, could be easily guarded against.

#### ASIZONA.

As in all other fruits, Arizona has still but comparatively short experience to record in olive culture.

At Yuma depot, there are several olive trees growing which show signs of fruit this year These trees are quite old, perhaps twelve years, having been transplanted from the barrack grounds three or four years ago.

Near Phonaix, Salt River Valley, the olive has only been planted two years; but the tree there, as everywhere else in Arizona, is bright and clean,

At Florence, 60 miles from Phoenix, at the gardens of Colonel Ruggles, the olive is reported as having fruited well for two sea-

#### GOVERNMENT LANDS.

#### How to Proceed to Secure a Home

gives the following from the United Statea Land Laws:

Any person except soldi rs and soldiers' heirs must make affidavit that they are acquainted with the land they are entering and also make affldavit that, to the best of their knowledge, there is no mineral on the

#### PRE-EMPTIONS

the head of a family, widow or single person over the age of twenty-one and a citizen of the United States, or having filed a declaration of intention to become such, as required by the naturalization laws, who has made or hereafter makes a aettlement in person on the public lands subject to preemption, and who inhabits and improves the same, and who has creeted a dwelling thereon, is anthorized to enter with the Registrar of the United States Land Office for the district in which the land lies, by legal aubdivision, any number of acres not exceeding 160 acres, or a quarter section of land, to include the residence of the claimant, upon paying the United States mini-

mum price for such land. No person, who is the proprietor of 320 acres, can preempt land. No person who quits or abandons his own land to reside on public land in the same State or Territory, can pre-empt. Persons can, however, take homestends and timber claims whether they have 320 aerca or not; neither does the law prohibit his taking a homestead when he has left a residence on his own band. The above only refers to pre-emp-

The first requirement in taking a preemption is to take the quarter section desired, and ascertain from the Land Office record that it is vacant and subject to entry. He must then make some improvements-not stick up stakes, but make some substantial improvements; and then, within ninety days, file a declaratory statement for the land in the local land office, the fees for which are \$3. A residence must be established on the land when the improvements are first begun, and a continuous residence is obligatory.

After a continuous residence upon a preemption for six months, settlement can be proven and the Gozernment price paid, there will be a final receipt issued to the pre-emptor; but, in ease either does not desire to make final proof at the end of six months, he has thirty-three months from the time he made settlement.

#### HOMESTEAD

Entries must be made in person, usually before the Register of the local land office, and the entry fees are \$16. The requirements of the homestead laws are about the same as those of the pre-emption, except that residence can be established within six months after making filing; but homesteads are subject to contest if settlers fail to get on the land inside of six mouths after entry. Homesteads may be proved up in six months and paid out on the same as preemptions, but can be proved up in five years without paying. In making final proof the aettler will be required to give the number of times he or she has been absent from the claim; where went, and for what they went, and are questioned regarding the amount of improvements they have. If, in the judgment of the Register and Receiver the law has not been complied with, they will not issue a final receipt.

#### TIMBER CLAIMS

The Southern Californian Informant Do not require a residence. Timber claims must be entered by personal application, sworn to within the land district where the land is situated, before officer having a seal and authorized to administer oath. Claimaut must have five acres broken the first year; the second year must have five acres broken and cultivate the first breaking; the third year must put trees, seeds or enttings in the first five acres and cultivate the sec-Section 176 says that every person being ond five; the fourth year must set out the second five acres in trees, tree-seed or tree enttings. If in eight years there are 6750 growing trees on the tract, claimant can make final proof and secure a patent. Government fees in timber culture claims are \$11 for entry and \$10 for final proof.

All duties required by the timber culture laws may be done by others, except the entry and final proof; nor is he or she required to reside near the land, but will always be expected to comply with the law in regard to improvements,

There is no fixed amount of improvements required in homestead or pre-emption law, Residence and cultivation in good faith as a home, a farm to the claim- come to be extended,

ant's best ability, is held to be the requirement of the law.

#### SOLDIERS! HOMESTEADS.

Soldiers who served in the United States army for ninety days and were honorably discharged and have lived loval to the Government, can file declaratory statements ou 160 seres of vacant land, by an agent through the power of attorney, in a form prescribed by law. This power can be executed before a notary public anywhere in the United States, and sent to some reliable agent, who will select the quarter section of land and file on it for the soldier. This filing will absolutely hold the land for six months without the residence of the claimant. At the end of six months the soldier must begin a residence and make another filing, called the final entry, at which time he pays a fee, the same as in homestead cases. Soldiers are compelled to live at least one year on their claim, but they can deduct their service as a soldier from the five years required by the common homestead, and thus get their patent in a shorter time than he who has not served his country as a soldier. Soldiers' widows are entitled to the use of the deceased husband's service while in the war to assist her in proving up a claim, and if the widow is dead, then one of the minor heirs can use the right-but it must be done through the guardian of the child. Widows and orphans of soldiers will not be required to cultivate the land, or to personally do the work, but can eause the same to be done by others capable of practical farming. Good faith and cultivation to the best of the ability of the claimant is all that the law requires.

The above will show those in the East who do not understand the law governing the public domains that it is impossible for them to acquire land in this country without becoming a resident, and with the exception of soldiers' claims, the applicant must appear in person and know something of the land he desires.

#### DESERT LAND.

Desert land may be entered only in the States of California and Oregon and the Territories of Washington, Idaho, Montaun, Utah, Wyoming, Arizona, New Mexico and Dakota. Any person wishing to make entry of desert lands must file with the officers of the land office for the district wherein the land is situated, a declaration actting forth that he intends to reclaim a tract of desert land not exceeding one section, by conducting water upon it; giving amount of land; that without irrigation it will not produce an agricultural crop; that there is no timber growing on the land; that it contains no valuable mineral, stone or saline deposits,

This declaration may be executed before the elerk of any court of record having a acal. If the applicant is not a citizen, but has declared his intention to become such, a duly certified copy of his declaration of intention to become a citizen must be presented and filed.

The declaration must also contain a deseription of the land applied for, by legal subdivisions if surveyed, or, if unsurveyed, as nearly as possible without a survey, by giving, with as much clearness and precision as possible, the locality of the tract with reference to known and conspicuous landmarks or the established lines of survey, so as to admit of its being thereafter readily identified when the lines of rurvey

As preliminary to the filing of such declaration, it must be satisfactorily shown that the land therein described is desert land as defined in the second section of the act. To this end the testimony of at least two disinterested and credible witnesses is required.

After this proof has been made, the applicant will pay the Receiver the sum of twenty-five cents per sere for the land applied for, and receive a certificate.

At any time within three years after the date of filing the declaration and the issue of certifieste, provided the United States surveys have been extended over the land, the proper party may make satisfactory proof of having conducted water upon the land applied for. This proof must consist of the testimony of at least two disinterested and credible witnesses, who must appear in person before the Register and Receiver. They must declare that they have personal knowledge of the condition of the land applied for, and of the facts to which they testify; and their testimony must be reduced to writing in the usual manner.

When satisfactory proof has been made, the applicant will make an additional paymeet of \$1 per acre, when a patent will be issued.

The right to the use of the water by the persona conducting the same on or to any tract of desert land not to exceed six hundred and forty acres, shall depend upon bona fide prior appropriation; and such right shall not exceed the amount of water actually appropriated and necessarily used for the purpose of irrigation and reclamation; and all surplus water over and above such actual appropriation and use, together with the water of all lakes, rivers and other sources of water supply upon the public lands, and not navigible, must remain and be held free for the appropriation and use of the public for irrigation, mining and manufacturing purposes, subject to existing rights.

#### EFFECT OF SPRAYING.

Last year, says the El Dorado Republican, "two of our horticultorists tried the experiment of fruit spraying with most satisfactory result. L. M. Davis sprayed 500 or 600 Bartlett pear trees with a solntion of one pound of Paris green in 160 gallons of water. He found that this solution killed the pear sing and produced no visible effect upon the fruit foliage, and, although he only sprayed the trees once, he found it very beneficial to the fruit Spraying with this solution costs about three mills to the tree besides the labor and expense for a pump. Earl Norton and his sister, Mrs. Delaney, aprayed last year about 2,000 pear and apple trees using a solution of Paris green, one pound to 100 callons of water, Although they only sprayed the trees once, yet the results were very satisfactory. An apple orchard that was apraved yielded 150 boxes, and the year before, without spraying, only 29

The San Diego Sun says: It is estimated that over one-half of the vines of the Mission variety in San Gabriel valley have died this year. The committee investigating the cause, by the aid of a powerful glass, has discovered a fungus growth which is believed to be the eause of the destruction of the vines. Those vineyards which have been irrigated frequently are affected most seriously, and in some cases are en-

#### THE OLIVE.

# Some Interesting Facts Concerning This Valuable Tree.

Within certain latitudes, says the Analyst, the olives will grow anywhere and serve for almost any purpose. Oa a dry and stony elevation that would starve out a thistle this plant luxuriates; and if the sea breezes may but fan the young shoots, so much more of promise is there for the olive harvest. Propagated chiefly by cutting, the "willowy" looking twigs take root with a proud defiance of ordioary rules; and there is a whimsically planted grove of olive trees of nausnal size and beauty near the town of Messa, in Morocco, which illustrates this trait in a remarkable way. One of the dynasty of Seddia, being on a military expedition, encamped here with his army The pegs with which the cavalry picketed their horses were cut from olives in the neighborhood; and some sadden cause of alarm leading to the abandonment of the position, the pegs were left in the ground, and, making the best of the situation, developed into the handsomest group of olives in the district. Olives are mentioned in the earliest records of Egypt, and their introduction into Greece took place at least as

early as 1,500 years before our era. Theacs their cultivation naturally passed into Italy, the Romans especially prizing them; while Virgil mentions three distinct varieties, each of which had its own fastidious supporters in the ancient conflict of tasters. Pliuy also tells as that they also grew in the heart of Spain and France though he awards the palm to the smaller olive of Syria, the olive which was at least more delicate than that produced in the western countries. So far as regards the oil of Spain, and to some extent that of Italy, this judgment stands good to the present hour, for the reason that the Spanish olive is a larger and coarser fruit, while the Italian growers are too apt to detract from the limpid delicacy of the virgin oil by the sacrifice of quality to quantity. For the olive, like all generous givers, demands that you should "squeeze" him gently. The oil is expressed from the entire pulp and body of the frait, and its quality stands in inverse porportion the quantity produced The first pressure yields a thin, pure liquid, almost colorless; and with this even the most fastidious of English palates rarely makes acquaintance. As the presaure is increased a less delicate product is the result: while if it is still further proloaged a rank and unwholesome residum is obtained, wholly unfit for edible purposes. It should be mentioned that virgin oil does not maiatain its freshness for more than a few weeks without the adddition of a little salt or sugar, and it is impossible for any one to realize the exquisite delicacy of this first expression of the freshly gathered olive, unless he has sojourned in such a district as that of which Avignon is the

The oil of Aramont, in Provence, was formerly supposed to have no equal in Europe. Both the olive and the manufactured oil of sontheast of France are, indeed, still unrivalled by those of any other country. The Italians pay more respect to the commercial aspect of their production, and among them the number of olive farmers and merchants is very large. They have a proverb; "If you wish to leave a compentency to your grandchildren, plant an olive," Doubtless the advice is sound enough, for the trees often flourish for more than a century,

and hear heavy crops to the last But to the pasant of South France the olive is almost what the pig is to the English laborer. Prudent housewives there, are as averse to the introduction of a new fruit at table as therethritty English sisters are to the "new" loaf. In fact, they habitually preserve the darker berries for everyday use; for thesenot being so agreeable to the taste, "go's on much further—a neccessary consideration when they often form the staple than the accompanioment of the meal. Olives intended for esting are gathered while still green, usually in the month of September

PICKLING IN SPAIN,

The development of the fruit is closely watched as the ripening period approaches. When the berries have reached their fall size, while still hard and green they are gathered. Ordinarily they are knocked off by striking the limbs with sticks; this is apt to bruise the limbs and injure the fruit so growers of reputation have their fruit picked off by hand. Two processes are emplayed in picking. After sorting the olives to naiform size, the old style of "slow picking" is to put the frait into fresh water, changing the water once a day for fourteen days. The water when first drawn will be intensely bitter, gradually growing less so, until it becomes sweet, when the olives will be fit for the brine. After each of the several drawings, fresh water must be added quickly as any long exposure is apt to turn the olives rancid or sour. When ready for the brine the fruit is put into a solution of one part of clean salt-in California it will be safest to use Liverpool salt—to fourteen parts of fresh water. The brine may be used in old casks, which have contained sound wine or brandy, but not in any package which has had any rank or sour substances. The sater plan is to use tanks or barrels made for this purpose, entirely of sound oak which has been soaked for thirty days previously in fresh water, frequently changed. The olive is sensitive to flavors and odors and repays cleanliness and watchfulness well. A barrel or tank, even partly made of redwood, or any kind of pine, spruce or fir might taint the fruit enough to rain its sale- In transferring the olives from the soaking to the brine receptacle, they should be handled only with wooden or tin dippers, not with the hand . Human hands must be kept off from sensitive fruits of all kinds as much as possible. Before puting the olievs in a layer is made of olive twigs and leaves at the bottom to act as a buffer. Enough fruit is ladled in to cover the bottom well, then enough brine to cover the fruit. This is continued until the barrel is full, when another layer of olive twigs and leaves is put on top, and over the oak shakes or staves, the latter being kept scrupulously cleaned, and weighed down with stones. A canvas or tarnaulin is then spread over the barrel and the fruit left to hecome thoroughly pickled. The process will take about four months, when, if it has been properly followed, the olives will be in fit condition to eat or to bottle, or will keep perfectly sound for a year or more.

The essential points to oboserve, in order to secure good results, at first, to use no ripe or even partly ripe, nor rotton or defective olives; to pick by hand and avoid bruising; to soak throughly and change water daily natil it becomes sweet: to keep the olives from long exposure to the air during changes of water or at any time thereafter; so avoid handling by hand as much as possible, and thaough all the processes to observe the strictest cleanliness in all respects,

in all materials or substances that come in contact with the fruit. A new process, employing caustic soda before brining, works much more rapidly, but requires great expertness to save spoiling the fruit.

Italy is the greatest clive-producing country in the world, 1,500,000 acres being devoted to that industrá, yielding 30,000,000 to 50,000,000 gallons of oil annually.

#### A CURE FOR SNAKE DITES.

Is it the daty of every one, when he finds anything that will relieve suffering humsaity, to make it known to the world? This was my feeling, says a correspondent of the Southern Cultivator when I read the following onre for snake hites in an old copy of the American Farmer, dated July, 1825. The article was credited to the Augusts (Ga.) Constitutionalist. In great cities, particularly in London, a number of persons procure their livelihood by catching vipers. They are employed by chomists, apothecaries, etc. I remember some years sgo, before leaving Eugland, to have read, in the Royal Society in London, a curious circumstance of one of these viper catchers-A member of the society had heard of a man thus engaged who, when bitten, cared himself with olive oil. After inquiry he was found and interrogated as to the facts. He said it was true. A meeting of the society was held, attended by a number of the nobility. The viper catcher was present, together with his wife and a large viper. Laying his arm naked to the shoulder he suffered the irritated reptile to bite him, His wife permitted the poison to operate till his head, face and tongue were greately swollen, his arm and face turned black, and his senses seemed much affected. Then she applied the oil by pouring a small quanity down him and bathing the bitten part, and the man gradually soon recovered.

The circumstance strongly impressed me, and knowing that the English viper is the most venomous in that country, I determined to try the effects on the bite of a rattlesuske the first opportunity that presented. In 1866, while traveling through Pendleton district, S. C., the opportunity presented itself. While sorry for the man's misfortune, I rejoiced in the opportunity to try the effect of olive oil. Having a vial in my pocket I hastened to him. His face and head were grately swollen, the latter black his tougue enlarged, extending out of his mouth; his eyes appeared as if they would shoot from their sockets; his scases were gone, and he really looked as though he would die, and that soon. He was bitten on the foot. I with great difficulty succeeded in getting two tablespoonsful down him. Its effect was almost instantaneous, powerful in counteracting the poison, as appeared by the strong through quick convulsion which followed. In thirty minutes it had acted both as an emetic and cathartic. after which the swelling of the head and face, etc., gradually abated. In two hours ha was so far recovered as to articulate, and from that time he recovered fast till perfectly over it. The oil used internally and externally did not exceed seven spoonsfuls. For twelve years I had known the oil used without failure, if given in time. I have used it with equal success on horses, dogs, cattle, etc., that were bitten. One case, I am credibly informed, has occurred, where a woman was bitten by a small dog which exhibited strong symptoms of hydrophobia, which was used with like success.

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#### PLANTING FRUIT THEES.

All orchard trees in California, says the Templeton Times require to be planted from twenty to twenty-five feet apart. In order to ascertain the aumber of trees required to plant a given piece of land, at a given distant apart, the following rule may be followed: Multiply the distance in feet between the rows by the distance the plants ars apart in the rows, and the product will be the number of square feet for each plant, which divided into the number of feet in the acre (43,50') will give the number of trees to the acre. Trees on the almond rout require to be in a deep, well-drained and warm soil. Almonds succeed best on their own roots; some varieties of pesches also. French prunes and some other varieties of plums do well on the almond root, in the above-described soil. Trees on the peach root will succeed in a greater variety of soils; a gravelly soil, a red hill soil, a sandy river bottom, or a moderately heavy land, will not nourish and preserve the peach root. The Myro bolan plum root is the best for most varieties of prunes and plums, but it requires a rich, moist land to produce the best results, and will do well in quite a heavy soil. The apple and pear, on their own raots only require a rich deep land, and will take a good deal of moisture especially the latter The cherry requires deep, sandy loam, along the creek beds, to bring it to perfection. The Mazzard is the only stock on which to work it in California. The apricot on peach root will thrive in the same soils as the peach on pear root; on its owa root it will not do so well in shallow soil. What applies to the peach, apples similarly to the nectarine. The quince will grow in very wet land. The walnut requires a very deep, rich land. The olive is said to produce the finest quality of fruit on rocky billside, but will make a correspondingly larger tree in richer soil, and will also produce larger crops. The Myrobolau plum ( Prunus Myrolana ) is the best plum stock, and is generally the best root for the French prune. I would caution planters, however, against buying trees raised upon Myrobalan stocks which have been grown from cuttings. A seedling is much the hardier and more vigorous. Neither is the Myrobolan a good stock for the apricot or peach. For small gardens, or where the soil is very wet, it may be well to use the St. Julien plum stock for peaches and

#### VINE MILDEW.

It is noticed by the Gardener's Chronicle that M. Coignet, in the Kyne Americaine. recommends the use of a fine powder containing copper sulphate for the vine mildew, Peronospora, as preferable to liquid solutions, which necessitate nicety of manipulation, trouble water carriage and powerful spray pumps which readily get out of order -inconveniences which do not apply to the distribution of fine powder by means of bellows. M. Coignet's pawder consists of precipitated sulphate of lime, (gypsam) which is made to take up ten per cent of a solution of copper sulphate. The result is a powder infinitissimally finely divided, in which part of the copper is reduced to a state of oxide, which acts slowly, and part remains as sulphate, which acts quickly.

It advices its readers to try this substance in the manner indicated, on potatoes infect ed with the potatoe rot, another species of Peronospora, and we may add that the tomato should come in for a share of the trial

#### RAISIN GRAPES.

#### Insect Enemies and the Art of Curing and Packing.

Gustav Eisen, writing in the S. F. Exominer, says: The animals inimical to the raisin grape are of periodical and comparatively rare occurrence, except the leaf hopper or grape fly. This is found almost every year, and it is, no doubt, a native of the Pacific Coast. It is a minute insect, about the size of a pinhead, but oblong, white, with minute colored spots, and it jumps as well as flies. It hibernates noder wood and bark and feeds in sonny winter days on the fresh and young alfilerio and other weeds. At the first development of the grape leaves in the spring, the vinehopper moves from the native plants to the leaves of the grapevines. It punctures the tender cells and feeds on the sap of the vines. If too numerous much damage may be done. After three weeks or a mouth the leaf-hopper crop will be found to considerably dimished. The old ones are dying out, but not before they have laid numerous eggs in the veins of the vine leaves. In August or the end of July the new vine hopper crop hatches out. While growing, the vines fairly swarm with the amall vine hoppers, which, in day time, feed on the underside of the leaves, which soon dry up, expose the berries to the sun, and either cause them to sunborn badly or only basten their maturity. If the grapes are well advanced when the second crop comes, little damage is done, but if they are still green and hard when the leaves are injured, they are apt to sunscald severely. and the loss may be great. The remedies against the leaf hopper are as yet only experimental. Many have been proposed, but few found effective.

The best remedies are not effective alone, but all combined will, if they do not eradicate the hopper, so diminish it that it is not lo be peared as a pest. After the crop of grapes is picked, sheep should be pastured in the vineyards and the surrounding roads or vacant fields. By their eating the green feed on which the hopper lives during the winter, and early spring, the latter are considerably diminished in number. As soon as the sheep have eaten everything cleanvineleaves, grass and all -the vineyard and adjacent fields should be ploughed well and cultivated, and the prunings of the vinevard bu ned and the ashes scattered over the soil.

This winter's crop of the vine hopper is mostly destroyed. To destroy those which hatch early in the spring, or which have moved in upon the young vines from the putside fields, the following device is made use of: A concave acreen of wire netting is attached to a long handle. This concave screen should have the shape of a quarter part of a globe, and should be large enough to cover one-half of a young-leaved vine. By placing A similar screen on the other side of the vines and fitting the two acreeus close together the vine may be entirely covered. Before inclosing the vine the screen is sprayed with coal oil or crude The vine is slightly shocked, when all the hoppers will rise at once and strike the kerosene and perish. This operation should be performed by two men, one on each side of the vice. This remedy has not been used long, but it was first suggested and practiced last spring, and will, no doubt, be considerably improved upon. The vine hopper is not so injurious to the

the color of the skin, which is so essential to the color of the wine.

The grasshopper is also of a periodical uature, and may prove destructive in places surrounded by much vacant land. In well settled and cultivated districts, where every inch of the sotl is plowed and no weeds are allowed to spring up, the grasshopper will never get a start, and cau do no harm. Some three or four years ago, many districts were greatly troubled with this pest. The grasshopper hred on the plains, and especially on the vacant foothill lands, and from there gradually invaded the settled and cultivated places. Some seventeen different species of grasshoppers were counted, all swarming together, Among them, however, was not found the locust, nor any species that migrate in swarms. A remedy was soon found which, if applied in time, will destroy the grass hoppers before any damage has been done. Ten pouns of arsenic is mixed with seventyfive pounds of bran and twenty-five pounds of middlings and moistened with water to make a paste. Enough syrup of glucose is added to make it sweet and keep it moist. This mixture is spread on small pieces of shakes, which are scattered all through the vineyard or orehard. A whole row of this may be laid between the vineyard and the slowly-approaching grasshopper swarm. If tenees are anywhere near the mixture may be spread on the top board to the greatest advantage. The grasshoppers will sat the arsenic mixture in preference to anything else, and will soon be found dead by the millions, covering the ground everywhere. If a whole community joins to fight this pest, there need be no fear of its being destructive.

#### THE ARMY-WORM EVIL.

The army-worm is also a pest which, if not attended to in time, will prove unmanageable and which will do much harm The army worm may consist of different species of eaterpillers, which, for some unaccountable reason, in years favorable to their breeding in enormous numbers, suddenly begin to travel and invade the cultivated lands and vinyards from the un. cultivated fields outside. There are to be seen in California two kinds of army worms -the small, grayish black, about two inches long, and the large one, three to four inches long, striped, green, yellow, black and brown. Both kinds can be arrested in their march by making a treuch all around their vineyard. This need only be two feet wide and two feet deep. sides should be as steep as possible. army worms will crawl into the trench in their endeavors to reach the vines, but will not be able to crawl over the opposite steep

[ To be Continued ]

#### ALCOHOL IN TRANCE.

J. L. Rathbone, U. S. Consul-General at Paris, in a recent report on this subject, says: The quantity of alcoholic spirits extracted by distillation from wine-for a long time the only distillation consumed in France-has been gradually diminishing in consequence of the ravages caused by phylloxers and mildew in the vineyards of France, falling from 18,145,000 gallons in 1871 to 515,000 gallons in 1886; and to meet the ever growing demand for spirits this distillation has been replaced by alcohol distilled from molasses, beet root juice,

potatoes.

The spirits produced in France are now, for the greater part, distilled from molasses. From 1840 to 1850 the average yearly production amounted to 1,057,000 gallons. It now reaches 15,492,600 gallons, or nearly two-fifths of the total production.

The distillation of beet root juice is also very important, producing alcohol of a good quality. The annual production in the period between 1810 and 1850 did not exceed 13,209 gallous. It now reaches 13,-000,000 gallons; but, nevertheless, it now seems to be decreasing slightly, and it is replaced by the distillation of grain.

The production of alcohol extracted from grain, which, before the year 18t5, did not amount to a great deal throughout France, began to increase about that year, after a severe disease had greatly reduces the vield of the potato crop. It was stationary till the year 1876, but it is now five times greater than then, maize especially being used for distillation. 1873, the quantity produced was 2,298,-000 gallous; in 1854, 12,812,000 gallons, and in 1585 reaching 11,899,000 gallous.

The distillation of potatoes, introduced into France some sixty years ago, has never gained a great importance. In 1873 the production of said spirits reached 246,-000 gallons; in 1855 it was reduced to 103,000 gallons.

The quantities of alcohol produced undoubtedly exceed the figures set forth in official statements, as, since the law passed in 1875, which released landowers and farmers from the obligation of making the declaration required from liceused distillers and exempted them from the frequent inspection of revenue officers, there has been a greater facility to defraud the Government by making false declarations as to the quantities actually produced.

#### IMPORTS AND EXPORTS.

In the same time that the production of spirits in France gradually augmented, imports of alcohol, especially from Germany, also greatly increased.

German alcohol, of bad quality is, to a very great extent, mixed with Spanish wines entering France, but which only pays the duty imposed upon wines. alcohol is afterwards extracted from them. and sold at cheaper prices than French and other foreign alcohols.

#### IMPOST DUTY.

The import duty levied upon alcohol entering France has been raised, by a law passed on the 5th of July, 1857, from 30 francs to 70 francs per hectoliter of pure alcohol (22 to 51 cents per gallon). increase of the duty was considered as a kind of retaliatory and protectionist measnre against Germany, where a premium of 44 cents per gallon was allowed by the Government to exporters of domestic alcohols as a reimbursement of the internal tax, while this tax was only 15 cents per

The statement prepared by the Ministry of Finances represents but imperfectly the real average of alcohol consumers. does not embrace the quantities of alcohol produced by land owners and farmers, nor alcohol frandulently distilled or introduced into France; and besides, a large part of the population, especially women and children, cousume but a little quantity of spirits. Consequently, it is to be inferred, that only one-eighth of the total popularaisin grapes as to the colored wine grapes, grape skin and from miscellaneous farina- tion of France drick spirits, and, there-

The effect on the latter is to greatly reduce ecous substances, especially maize and fore, their consumption of alcohol per capita must be eight times greater than that shown in the statement.

> The continuous increase in the number of public drinking-houses in France is becoming a source of uneasiness. Their number, which in 1529 was 297,512, reached 399,145 in 1885. In 1873, a law was passed enacting penalties against intoxicated persons found in the streets, in public drinking-houses, or in any other public place, and against those selling liquor to them.

#### FUTURE OF AMERICAN GRAPE CELTURE.

Prof. Geo. Hussman recently read a paper before the American Horticultural Society in California on the outlook for American grape culture. He thought that in the East they must rely on the Asstivalis, Riparia, Cinerea and Rupestris species as the foundation for our reliable grapes of the future.

He had unbounded faith in the ability of this country to produce "wine good enough to stand on its own merits, and we should despise the trickery of sending it out under French and German labels, which so far had been mostly done with our best products, for which France and Germany receive the credit, while we get the blame for the inferior article. We claim, and claim justly, that we can make wine, the pure juice of the grape, good enough and cheap enough to make it accessible to every laborer and every family in the Union, while we also know that we can produce quality high enough to please the counoisseurs, and we also claim that in so doing, we are furthering the cause of true temperance.

The choice lavs between our own native production, purer and cheaper in every respect, and the imported article at a higher price and with no assurance as to its purity. And then, again. I hope we are getting too far beyond the narrow prejudice of "farfetched and dear-bought " to stand on the simple pretext of turning up our noses at home products, to prefer French and German brands, just because they cost three times as much. The cause of home iudustry and true temperance will triumph in

When we come to look at our raisin industry, the case is still more simple. Here, we may say, we have a monopoly; from the small beginners years ago we have worked up to the production of a mfilion twentypound boxes in 1987, and the brands of California packers are now preferred to th foreign products, but because it is American product, but against all the prejudice, engendered by long usage, for the foreign article. Now our raisins are driving the finest of foreign manufacture from cur market, and are sold almost before they reach the Eastern market.

If we once meet the day that all this immense country uses California raisius, because they are cheaper and better, in preference to the imported, what an immenfield is open to this industry! Here is at aren which even all those may enter who have conscientous scruples against wine makin. They can thus dry their fruit, and find a ready market for it in this country as well as on the Continent. Europe has the advantage of us in cheaper lalar, ye we can produce better and purer goods they can do or will furnish us."

#### ELECTRIFICATION OF WINE

Translation from the Italian of Flavio Menganioi. appended to the last annual report of Chief Viticul tural Officer Wheeler.

In February, 1885, at the Physical Institate of the University of Rome I commenced experiments on the rapid growing old of wine by means of electricity. It interested me to understand more of the chemical actions of an electric current ou wine in general, already noted and announced in the works of Professor Blaserna (1), Caspeni (2), and others, the different effects that a current of constant intensity would have produced applied to the same sample of wine during different periods of time, and especially to know the different grades of oxydation, what would be the subordinate results of the conservability that the wine would have acquired

The experiments were conducted in this way: In a small vat of the capacity of ten litres, or thereabouts, I immersed two plates of platina, sixty-six millimetres in length, twenty-five inches in width, and thirty-five millimetres apart, that communicated with a pile of six Bunsen batteries, large model, mounted in tension. I introduced in the same circuit a compass that was graded in amper-hour, destined to measure the current furnished.

Before commencing the experiment I preserved a part in a bottle (laboratory bottle of Eilenmeyer) closed with a cork. a sample of the liquid that was to undergo the test. It was a common white wine of the firm Ostini di Gengano, still rich with fermenting matter, and in a fair way of maturation. I caused the current to act, and measured the intensity by means of au electrometer; extracted after thirty hours a sample, which I preserved in the same manner as the other. I renewed the plases, and continued the action of the current for six hours, extracted another sample. After another six hours, a third. and so on successively, observing the current fornished and the number of hours it continued to act. Extracted fifteen other samples: the last had received the current for one hundred and thirty hours, which I preserved as the others preceding. The residue of about three and one half liters I gathered in a jar, closed with a cork, and hermetically sealed with paraffine

I removed the plates from the wine and when the action of the current was stopped, found them to be covered with an albuminoid substance, almost black and in an advanced state of oxydation. The wine appeared musty, and had acquired a perfume, that from the samples less electrified it appeared sensibly increasing as to become exaggerated and dissimilar to that of old wines, in the samples longer electrified

Previous to these first observations the samples gathered as aforesaid, in bottles lightly corked, with the exception of the latter, which was sealed, were placed in a room of the Physical Institute, which was at a constant temperature of 15° Centigrade, together with the sample of wine that was not electrified, that should have demonstrated its degree of conservability in comparison with the others that had received different quantities of the current.

After a sojonrn of a year, with the conditions above described, I retook all the samples, held a microscopic examination, and then placed them under a chemical analysis, leaving the residue for an organolitic examination. It remaining now to try

the experiments, summing up the different phases.

The electric current introduced in the wine produces in it a rapid turbidness, followed by the precipitation on the bottom of the vessel, of all the organic substances that it has in suspension, and of a portion of the albuminoid substance naturally contained in the wine. A very small part of this sediment conts the two plates of platinum, and being there in contact with the oxygen that is developed by the current, is darkened and entirely burned, adhering to the plates in such a manner as to prevent any further precipitation. The more or less duration of the current seems not to have any influence on the quantity of the extractive substance which is precipitated, since the results of the analysis show a perceptible constant loss in the samples, with the exception of Number 4, which has only lost 1.6 per thousand. It is not surprising if the diminution of the extract is generally so considerable, because we must take into consideration the small quantity of wine subject to the electrization in comparison with the energy of the current received by it, and the size of the plates of platinum used. Besides the wine still ve.y young has a very high degree of density, because of the azottc substances and the organism that it contained in suspension; the rapid precipitation of these substances immediately after the action of the electric current, and their presence instead in the sample not electrified, which was separately analyzed, has produced the marked difference in the results of the analysis.

Evidently, repeating the experiment on a larger quantity of wine which has been already a little reduced, even using platinum plates of the dimension suggested by Professor Blaserna, as more adapted for the electrification of large quantities-that is of six and eight centimeters in width, by thirty to forty in length, the loss of dry extract must be very small, and at any rate such as not to exceed in a perceptible manner that which takes place during the natural aging of the wine.

The results obtained on the coloring matter have not been sufficiently precise as to permit to draw a conclusion. In the most of samples there was some weakness of color, and it would seem that it even increases with the increasing of the electric action : then there was not only interruption in this decoloration, but in the samples 4, 5, 6, and 7, the coloring intensity increased in comparison with numbers 2 and 3, which were fairly decolored, so that the sample 8 became nearly uncolored, and approaching the yellow color of a very old wine.

There is no doubt, as it has been well demonstrated, that the precipitation of color takes place under the action of the current, but new experiments are needed, especially on red wines, to determine with better precision how and in what proportion it takes place; which causes can thwart it, and to what limits it can be brought; because it could happen that to obtain a rapid aging, it would become necessary to use such a quantity of current as to deteriorate the coloring matter, or to cause too large precipitation that would damage the wine, by depriving it of one of its qualities most appreciated by the trade.

The difference in the alcoholic degree between the wine type and the first sample, which is the less electrified, is about 3.6 per

table and from the general proceedings of gression in such a manner that in the sixteenth sample it reaches the double of the first difference, that is, 7.2 per hundred.

It seems evident that these two losses are due, the first to the formation of the acetic acid and to the fading of the alcohol during the period of one year, because of the samples remaining in contact with the air being lightly corked; the ground to the production of saccharomyses micoderma vini, and for a small portion to the evaporation of the alcohol being carried away by the little bubbles of gas developed by the electrolysis of the air. This latter loss increases with the increasing of the current in a sufficiently regular manner, and comparing the results of the analysis, we find that it has an average value of about 15 hundredth per cent for every six hours of

From this amount may be deducted approximately what represents the loss of alcohol by elimination during the electrolysis. The sample number 18, which being more electrified than all others, of larger volume and hermetically closed, has remained free from acidity and slow evaporation, has given to the analysis 8.9 per cent of alcohol, that is a total diminution of 1.4 per cent on the sample type; this diminution, supposing it has taken place during the electric action, would correspond to about 0.07 for each six hours of current, and then the loss due only to the saccharomyses mycoderma should be of 8 hundredths per cent, without taking into consideration the difference occasioned by the gradual diminntion of the acetic acid.

These results have a quite theoretical value; because, if the current is applied to large quantities, preserved with care, the loss of alcohol would be very small, and commercially of no importance.

More important is the formation of acetic acid in relation to the duration of the electrification, because it affords a new criterion on the antiseptic power exercised by an electric current on the wine, and also, gen\_ erally, on any fermented or fermenting

In order to determine this action as carefully as possible, a wine was selected in the best condition to produce secondary alterations and fermentations, that is, a wine still rich of ferments and of azotic matters. In fact, the sample which was not electrified was soon changed into vinegar, and afterwards the whole mass becoming putrefied.

On the contrary, there was no putrefaction in the electrified samples, notwithstanding the albugineous precipitation, which has produced a commencement of decomposition not accompanied by any formation of ammonia, ether, etc., as generally is the case. The very small granular form perceptible in the sample No. 4, probably is only the product of this maceration, rather than decomposition, through which the azotic substance by remaining, during one year, in contact with the wine. This opinion agrees with that of Professor Pirotta, of the Botanical Institute of Rome. and is applied also to the circular forms observed in the sample of No. I2 and others,

The formation of the acetic acid stands in inverse ratio of the duration of the current, whilst the production of the saccharomyces mycoderma takes place in direcratio. This can be attributed to the difficulty met by the two ferments in order to develop themselves at the same time, and to the superficial vegetation of the saccharomyces mycoderma, which its biological the conclusions, both from the analytical hundred, and increases with regular pro- condition is less affected by the autiseptic

diffused in the surrounding air. On the contrary, in the mass of the liquid all the alcoholic fermenta are precipitated as soon as they become inactive, and the bacterium aceti, which alone is found living, must aubmit by degrees to the saccharomyces myco, derma vini, because of being directly exposed to the action of electricity.

In the sample No. 14, which has received one hundred and eleven hours, 14,76 ampere-hour, and in the following, there is not in the microscopic observation any bocterium aceti, although in the result of the chemical analysis there is, Nos, 14 and 15, a light exuberance of acidity ou that of the wine type, which may be cousidered as acetic scid. To still better determine until what limits these latter samples would remaiu free from acidity and other diseasea, Heft the Nos. 14, 15, and 16 at the open air, without closing them, during all the summer and fall. After this time I examined them with the microscope, and found them tarbid from dust, fermentst etc.; but none of them in a state of putrefaction, and only one, the No. 14, hegiuning to become acid.

The importance of these results ought not to pass unheeded, obtained, oa they were, by simple and harmless means; and it is not improbable that they may find some useful application, even outside of the analogical field. If, in so unfavorable conditions, it was possible to make aterile the wine to such an extent, it is but natural to believe that by applying the electricity to large quantities, a sterility of the wine, nearly absolute, could be obtained. But it is necessary to make experiments on a larger scale, in order to learn approximately what quantity of current is required to make sterite certain known quantities of wine, with due proportion to the precipitation of the coloring matter, and to the perfume thar is formed. For the present we may hold that a moderate application of current develops an aroma suitable to the wine; but if it it lengthened too much it produces a too pronounced scent, in which is also perceptible that of oxone, by which its value is determined, while the wine acquires preservative qualities that increase in direct ratio of the ouration of the electrification.

The principle which has prevailed until now, that the electric current applied to tne wine imparts to it the character it acquires by aging is, in conclusion, a little displaced. We must take into consideration an antispetitic action of great energy, which, perhaps, can be more useful to the wine than the rapid aging which is produced from the same cause. It remains to study in what manner and measure these effects are compatible one to the other, both in the scienific and the anslogical and industrial interest.

INFORMATION HAS been received at Washington that at the conference of United States Appraisers, in session in New York during the past week, it was unanimously voted that prune wine, prune juice and other similar decectious and compounds used in the adulteration of native wines should pay a duty of \$2 per gallon as a compound of which alcohol is the component material of chief value, instead of 20 per cent ad valereom as heretofore classified, it having been proved by analysis that such compounds contain no fruit juice whatever, but that they are decoctions of glucose and deleterious drugs, with the addition of alcohol in their composition to pre vent fermentation.

#### THE MYSTERIOUS VINE DISEASE.

Prof. F. Lamson Scribner, Vegetable Pathologist of the U. S. Department of Agriculture, writes to Benj. Pratt of Orange, Cal., as follows:

To me the disease of the vine in question is as much a mystery as ever. In many respects it is like what the Italians name "Mal Nero;" but if it be the same disease, we are no nearer a knowledge of the cause, "Mal Nero" has been much studied in Europe, but no one yet has been able to say what causes it. The symptoms-the effects of the malady-are very well known now, but we have really got no further than this. I reported to the commissioner what I saw in the vineyards of your neighborhood, but I have prepared no report for publication, for the reason that I could throw no light upon the subject. I certainly saw the same disease in Mr. Krug's vineyard at St. Helena (Napa county); only half a doben or so vines were affected. Mr. K. said that he had seen similarly atfected vines in various vineyards for at least ten years past. The published accounts of the disease which I have seen assert that the roots are perfectly sound. In every case examined by Prof. Viala and myself we found the ultimate rootlets dead, often a foot or more from their tips. But what coursed them to die? If we knew, the thing would no longer be "mysterious."

REPORT FROM THE COMMISSION'S EXPERT.

The State Viticultural Commissioners received Oct. 11th the first weekly report from Professor Ethelbert Dowleny, whom they commissioned as a specialist to inquire into the disease that is making such a have among the vines in that section. The Coll says:

The first week of the visit was spent in the San Gabriel Valley, and the investigation confined to the branches and leaves, as it is thought too early to interfere with the roots and stems with any present hope of snecessful result. The localities visited and examined were in the old parts of the vineyards, which are mainly planted with the Mission grape, and are taken as a fair sample, as they are planted on different soils, and on both high and low ground.

No definite conclusion has been arrived at as yet as to the cause of the disease, but it is assuming large proportions in this section, increasing every year for the past five years, prior to which it was nuknown.

Many theories have been advanced by the grape-growers as to the cause, the main one being that it was the result of the early pruning; but none have been advanced that would abate the disease.

Mr. Dowleny divides his report into two acctions. In the first he describes the state of the vinea that are either quite dead or almost so. Of these, the leaves have fallen off, leaving the leaf-stalks on the branches, and the grapes entirely dried np. The green branches show on their upper surface alightly raised, warty patenes of a red-brown and silver gray color.

The older branches, which have taken on their natural stable color, ahow a great abundance of spots of fungus growth. A microscopic examination of the warty patches on the branches shows that they are due to the growth of a small fungus immediately underneath the enticle, where it has formed a network of jointed branches.

This growth has caused the epidermal cells in contact with it to become filled with a dark-brown deposit and has caused the tissue itself to form the warty excreacences,

and through the rupturing the cuticle, and through the rupture the fungus has come to the surcultivate several varieties. The earliest, maturing in the middle of June is the

In the second section Mr. Dowleny treats of vines that are not so badly affected and at the point where the disease is supposed to originate. The condition of the vines in this group varies from the loss of a few leaves and fruit to the loss of half the vine and its product. The principal characteristics noted in this group are that the leaves look as though they had been scorched along the outer edge. This scorching always commences on the outer edges of the leaf and eventually causes it to turn brawn, dry up and curl in on the upper surface.

On examination these leaves also show numerous spots of fungus similar to those found on the stalks and vines mentioned in the first section. The stalks and berries also bear traces of the disease. The report does not draw any conclusions at present, but promises a study and explanation of the disease in the future.

#### THE GRAPES OF PERSIA

Viticulture in Persia is carried on not for the sake of wine, but for the grape's sake. The vinc is cultivated up to 4000 feet of elevation; and while in southern Persia it must be protected against sun heat; in the north of the country protecting of the plant by covering it up for the winter is requisite.

cultivate several varieties. The earliest, maturing in the middle of June, is the Jakuti, a small, seedless grape, with a fragrance resembling that of the strawberry. Chalili grapes, green and large, mature a fortnight later. The Mehri, oval, green, large, with thick skin and seeds of a bitter taste, ripen in August and are kept fresh into March, Miscali, round berries, very sweet and juicy, and Lurkush, of dark colored skin and rich in juice, are two varieties proper for wine. Askeri, seedless and of tender skin keeps fresh all winter, and, like Nabati, round, a hard-skinned, pulpy, but very aweet grape, is a favorite table Vinegar of the Askeri grape is of good quality. For raising Sahibi, of round berries, and Shestarus, oblong and dark colored, are used; and of the Kish mishi, redcolored, fine and seedless, currants are made. The Maderebaetshe, (mother and child) grape has obtained its name from the enrious fact that next to every large berry; small one is placed on the bunch. Shiraz grapes have bitter seeds. Two more varieties besides many others, the Munega and Kelotshe are also of good taste for eating.

The native grapes of Caspian Sea, in the forests of Gilan, cover the tops of the highest trees, causing dense shade. These wild grapes with thick skins and large seeds, are of good sweet taste, and produce a tolerably good wine.

The Persian eats grapes with his bread, and uses them both fresh and preserved

and dried. The Sahibi berries—when dried, called seta by the Persians—may have originated the Italian word sibibbe, and the Southern German word ribeben, for currants (or rather korinths).

The most pressed from the grapes and boiled down to the consistence of honey, is sent to market in goat skins, and does service to the poor Persians instead of sugar or molasses, and is employed also by confeetioners. Sherbet consists largely of fermented juice from unripe grapes. Only Indians and Americana handle grapes for fermenting, as Mohammed maler Prohibitionists of his adherents. Verations by tanatics and extortion by Mohammedan officials disturb the industry of Armenians constantly, and everything relating to wine making in Persia is decidely primitive Squeezing the grapes with the feet, puting the juice in earthern vessels, open, in a dark place, and bottling the product a year later-these are the processes of Persian viniculture. The best known wine is that of the Challer Valley, near Ispahan, and of Hamadam, terribly alcoholic, and without boquet,

A CORRESPONDENT of Popular Garde ing says: The best-keeping grapes are Vergennea, Mary, Isabella, Diana, Agawam, Clinton and Salem, keeping in the order named. Have tested about seventy varieties for several years. Vergennes will last until spring and Isabella until March.

# EAST BOUND THROUGH FREIGHT.

Forwarded by the Southern Pacific Co., September, 1888.

D.	FORWARDED FROM							ls P	OUNDA.
in	Articles.	SAN FRANCISCO	OAKLAND.	Los Angeles.	Colton.	SACRAMENTO.	SAN JOHR.	STOCKTON.	MARTSVILLE
B	Boiler Compound				4 . 4				
5.	Beans	439,300					22,900		
. 1	Barley		137,480	**** ****			2,096,460		397,760
h i	Borax	120,340	********						
e	Brandy	39,560	* * * * * * * * * * * * * * * * * * * *	8,040	27,970	_G7 330	4,500		
.	Canned Goods	4,132,410		24,870	63,300	711,760	1,995,010	*****	546,430
rd j	China Merchandiso	87.420	******			********			
ae l	Chocolate	17,500							******
10	Cigars	9,210							
h	Clothing, California Manufactured	38,600	* * * * * * * * * *				******		
	Coffee, Green	208,480	******	*******		1		*******	*****
TL.	Drugs and Herbs	40,630	******	*** ****		500			650
32	Dry Goods	11,210	1,140	59,700	**** ****	1,810	******	*** ****	
-	Empty Packages	40,000		59,700	**** ****				
	Fish Pickled	528,330	4000 4000	010 070	0444	1,537,8 <sup>5</sup> 0	1 \$11 870		G74,250
a	Fruit, Dried	216,190	20,250	348,050	368,610	5,031,720		101 (00)	
4		7,230	21,140	21,850			1,464,410	161,400	*****
nt i	Fuse		*****						
.	Glue								
Ċ-	Hair	8,340	*** ****						
re	Hardware	305,130	**** ***	61.250	*****	62,350			
	Hones	43,630	100	21,670	22,330	02,000			
	Hope	308,250	12,050			992,590			168,460
				20,000		002,000	40,000		10.5,400
y	Hurses	160,450					77,430		
n	Leather						11/4000		
	Lumber	85,220		28 650		41,640			
3.	Miscellaneous	228,420	21,730	79,320	7,556	43,150	74,250	46.050	4,200
d	Malt		21,100	74,020	4,000	11,450		40,000	7,200
u	Merchandise, Amatic (In bond)	51.200							
- 1	Mohair	3,550			******	1,300			
	Mustard Seed								
0	Nuts				******				
te	Oil, Whale	4 1 1 1 4 1 4 1 1 1 1	******						
	Onions	109.610					20,669	*** * *	
TO	Ores								
:0:	l'otatoes	2×0,090				41,550			
	Powder		46,160			71 350			
9,	Quick-ilver	500					135,000		
	Raisins			1,349,160		895,410			0 40 10 1
16 ]	Rice					******			
ce	Salmon, Canne I								
	" fuckled								
1-	Seed						99,400		
	Shingles	359,03 /				1		29,440	
	>.licon	1000							
n	Silk.	278,350							
4	Silk Goods	34,830						4 14	
a t	Skins and Furs	1,018,110							*** *
2	Sugar	4,444,200							
A	Tes	1,106,540				68,050			1943 644
y	Vegetables	63,000				05,000			20,000
	Whalebone	54,280	E 1964	4355 4454	1743 1 64-43	767,530	42,510	4 100	(201
J	Wine Course	1,725,270	5,390	255,050	304,950	74,556	9,200	8,130	
1-	Wool, Grease	1,137,960 76,870		666,650		67,820	\$5,2000		
	" Scourd	463,960		** * *		- Paramet			
it	Woolen Goods.	527510			4 4 9 7				
	Woods Valuable	75,350							
5,	TOOLS VALUEOUS	10,030		=					
al	Totale,	20,859,160	265,140	2,077 560	794,740	10,475,620	7,930,990	244,060	1,812,440
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Recapitulation.

20,859,160

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Maryn l le. 1,512,440 Colton, Urand Total 794,740 45,383,010



ISSUED FORTNIGHTLY ON FRIDAY MORNING BY E. C. HCGHES & Co., - - Proprietors. Office, 511 Sansome street.....Postoffice Box, 2366

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FRIDAYOCTOBER 26, 1888

MR. GEO. F. HOOPER, of Sabre Vista, Sonoma Valley, in a letter to a contemporary gives his experience with the Mission and Picholine varieties of olives which, in view of the interest now being taken in all that pertains to this valuable tree, is

worthy of reproduction :

In 1880 I bought from Mr. West of Stockton 60 Picholine olive trees; these were planted on the hillside in good rich loamy soil and have been well cultivated each year. This is the first year that any of them have borne fruit-a few trees having a few olives on them, and the herries are small. In land adjoining this, I planted in 1875 or 1876, about 100 Mission olive cuttings. The growth of these has been very fine and the trees have been bearing for the last eight years, the crop being heavier each year. They are free from all pest except a little of the black scale, which made its appearance some two years ago; was soon overcome by an application of a wash of concentrated lye, whale oil soap and sulphur, applied at 130° F. in July. The following October we gave the trees a washing of sal-sods and water at the same temperature. The trees are planted 24 feet apart. The mission trees planted in 1875 are from ten to twelve inches in diameter, and the Picheline planted in 1880, the largest, are about four inches in diameter.

THE FOLLOWING item may be of interest to wine merchants and others who may contemplate using the mails as the means of forwarding samples:

In response to a letter written by Postmaster Bryan to the Postmaster-General at Washington asking for a madification of Section 369 of the postal laws and regulations so as to allow merchants to send through the mails samples of wines when inclosed in sample packages lined with cork, etc., an answer has been received to the effect that, "on account of numerons protests from the officials of various States, complaining that this law would interfere with laws existing in these States, it was found necessary to exclude wines and liquore altogether."

In consequence of this ruling, no package containing wines or ardent liquors, whether spirituous or malt, will be mail-

THE LATE shipment of raisins to London from Fresno by George W. Mende & Co. ia an event of the greatest importance to this growing industry. The car was taken on the Southern Pacific through train, and contained 1000 boxes of raisina, weighing in the aggregate about 20,000 pounds. The freight rate on the shipment is \$1.40 per 100 pounds to New York. From the latter place to London the rate, it is thought, will possibly be 30 cents per 100 pounds.

The Mediterraneam or Malaga crop is now being marketed in both London and New York. In the latter market, however, the California crop was the first to arrive. which was some three weeks ago. But the Malaga crop has been in London now some weeks, and it is considered very significant that in the face of all this so large a shipment of the California crop should be demanded.

TWENTY acres of raisin vineyard, says the Southern California any of the raisin acctions of California will give the owner a net frofit of \$2000 or \$3000 annually, and often more. But these figures are conservative. All the work required in that vineyard will not cover three months in the year, and it can all be done by one man, except the gathering and curing. That leaves nine months for rest, recreation or the pursnits of other avocations. This is no fancy sketch. Such land can be bought for \$75 to \$200 an acre. At the later price it will be contiguous to churches, schools, railreads and stores. Is there any other pursuit that will return an equal amount for the investment?

THE reports from the expert employed by the Viticultural Commission to examine into the disease which is now affecting the Southern vineyards will be found in another column. So far the cause is still undiscovered, but the examination is at present limited to the leaves, with the intention of taking stems and roots later on in the season, where former are not available. It is to be hoped that the investigation will result in the discovery of a remedy which will promptly check the threatened plague.

HEAVY SHIPMENTS of apples are now being made to Australia, and the demand is growing all the time. The Earl Fruit Company have just shipped twelve carloads on the Zelandia, and to fill further orders have been compelled to buy up the crop all over the State, and some of the crop in Oregon.

The Australians cannot raise as good apples as we do here, and they are ready to pay a good price for a supply.

THE VITICULTURAL Commissioners have issued a call for a special meeting to take place at the rooms, 204 Montgomery street, on October 26th. The object of the meeting is to make final arrangements toward establishing a permanent exhibit and Viticultural Exchange in Platt's Hall. The Viticultural Commissioners have already leased the hall and propose to furnish it as a permanent exchange where wine producers and dealers can meet, and where the products of every wine district in the State will be on hand in a pure state,

"THE MERCHANT "-The only recognized wine journal on the Pacific Coast.

THE LOS ANGELES VINE ROT.

Reports of Investigation by the Viticultural Commissioner's Expert.

John H. Wheeler, Esq., Chief Executive Officer:

DEAR SIE:-Please find enclosed that weekly report of Mr. Ethelbert Dowleny as to cause of death of vines in this section. Sent at Mr. Shorb's requeet.

Very respectfully,

C. M. RANDOLPH.

Privata Secy. San Gabriel, Oct. 6, 1888.

J. De Barth Shorb, Esg.,

State Viticultural Commissioner;

Sie;-I beg herewith to present my first weekly report of work done in connection with the investigation into the causes of the death of vines in this section.

In view of the comparatively short time that remains this season, during which the foliage of the vines can be studied. I have thought it best not to make any extended investigation of the stem and roots until the leaves and branches have been worked

I am, yours faithfully, ETHELBERT DOWLENY.

San Gabriel, October 1, 1888,

The investigation during the past week has been practically confined to the older parts of the vineyard, planted with the Mission grape, this part seems to be a fair sample of the whole, and, in addition, occopies both high and low ground. It has been traversed in various directions so as to cover all parta.

The vines throughout show the same general characters, and can be divided into two groups as fallaws.

In this group the vines are either quite dead, or almost so, all the leaves have fallen off, leaving the leaf stalks on the branches, and the fruit bunches have dried

This group containing the remaining vines proved to be more or less affected all through, both in leaves and fruit, varying from a few leaves, to more than half the

The leaves have all fallen off, leaving the leaf stalks on the branches, these leaf stalks are completely dried up from, either just at the point of union with the leaf blade, to almost the entire length of the stalk, and present a different appearance from stalks which have died in the natural course of things.

The green branches usually show on their upper surfaces slightly raised warty patches, red, brown and silver in color, these often exhibit slight fissures. The older brinches; which the bark has taken on its brown color, show abundance of small spots of fungus grawth,

The fruit bunches, of all ages, on these vines are usually quite shrivelled up, and have all the stalks dried up in the same manner as the leaf stalks, these fruit stalks are usually covered with fungus growth.

In this group the vines very much in appearance some have a large proportion of the leaves and fruit withered, others have ouly a few leaves gone wrong, but in all cases the features are the same. The leaves look as though they had been scorched along the edges, the miechief has always begun at some point of the margin of the leaf, and has then spread inwards, the part affected has dried up, turned brown, only difference noticeable between the con

and curled in upon the upper surface, an on almost every leaf examined, numbering many hundreds; the dead portion show numerous spats of fungus similar to tha noticed on the fruit stalks.

Some of the fruit bunches are quit spoiled, athers only in part; the affected parts, and sometimes even plump herrie show spots of fungus similar to that notes

A microscopic examination of tha leave shows that on the decayed portion there i a plentiful growth of a minute fungus, th spots on the surface being formed by th fractification.

Considerable time has been spent in at tempting to trace the fungus into the lea tissues, but at present this attempt has no been successful.

The microscopic examination of th warty patches on the branches shows the they are due to the growth of a small for gus, immediately underneath the coticle where it has formed a network of short jointed branches, this growth has cause the epidernal cella in contact with it to be come filled with a dark brown deposit, an has caused the tissue itself to form th warty excrescences, finally the cuticle ha been raptured, and through this ruptur the fungus has come to the outside. I this case also the attempt to follow the fur gus growth deeper into the tissues has no yet been successful.

Numerous instances were observed, o the branches, in which the fangus spare had lodged in some of the numerous irregu lurities of the surface and had just begu their growth. Further examination of a these is, of course, necessary.

ETHELBERT DOWLENY,

San Gabriel, Oct. 1st, 1888.

J. De Barth Shorb, Esq., State Viticus tural Commissioner:

Sie :- Herewith I beg to present my see ond weekly report of work done in connec tion with the investigation into the cause of the Los Angeles vine rat.

Much time has of necessity been take up by the microscopic work, which doe not make a great show on paper, hence th shortness of the accompanying report.

Yours faithfully, ETHELBERT DOWLENY, San Gabriel, Oct. 8, 1888.

LATEST REPORT.

John H. Wheeler, Chief Executive Office Viticultural Commission:

DEAR SIR :- Enclosed please find secon weekly report of Mr. Ethelhert Donleay Forwarded at request of Mr. Shorh.

Very Respectfully,

C. M. RANDOLPH, Private Secv. San Gabriel, Oct. 9, 1888.

During the week fresh parts of the vins yard have been gone over and the micro scopic examination of the leaves an

branches has been continued. The examination of fresh parts of the vineyard, planted with other varieties, an containing younger vines than the partic previously examined, has not revealed an new features of apparent importance so fa as the parts of vines above ground are con cerned

The younger vines have gone off in th same manner as those much older, her and there single vines, and in other place groups of vines have been attacked, th manufacturers. In May of last year the

excise duty paid on sugar for home cou-

sumption was raised from 50 to 60 francs,

and the additional ten francs were to be

paid, not only on sugar subject to taxation,

but also on the portion which was allowed

to go free, amounting to nearly one-third

ition of the younger vines and the older lants is the extent to which the vines have uffered. Amongst those examined the dataro and Burger varieties have suffered uost, the former severely; the Tronsseau. Infandel, Carignau, and Grenache having, a this vineyard, suffered bot little.

Some wild vines in a neighboring canyon o which attention was called, were visited. They seem to have gone off in a manner omewhat similar to the cultivated vines.

The microscopic examination of the eaves and branches has involved the makag of a large number of sections, but the ungua mentioned in last week's report has not been traced any deeper into the tissues with sofficient clearness to amount to cerainty. In the case of the branches, a fungus does certainly exist in the tissues of the pidermia, the difficulty is to determine the lepth to which it penetrates. In connecion with this part of the aubject, the black lungus, covering the leaves of olive and orange trees, has been found to contain, in addition to others, forms quite like those found on the vines. Whether they are really the same remains to be seen.

Up to the present no traces of any insect have been found on the affected vines.

ETHELBERT DONLENT.
San Gabriel, Oct. 8, 1888.

#### WHOLESALE MARKET.

Quotations given are for large lots to the whole

CALIFORNIA RAISINS.

Halves, Quarters and Eighths. 25, 50 and 75 cents higher respectively than whole box prices. Condon Lavers, choice per box ... \$1 65@ 1 75 cm. 1 80@ 2 00 tarers, per box ... 1 50@ 1 60@ 1 50 cm. 1 40@ 1 50 cm. 1 40@ 1 50 cm. 1 50@ 1 80 cm. 1 50@

CANNED SHAPPA Gapes, Muscat, 21, 25, 3 1 40, 1 50, Galls, 4 50, 7 3.5, tins 2 25, 2 45

#### Sugae Quotations

California Sugar Refinery price list dated October 23rd Circle A. Pat Cube, 7%c; Circle A Croahed, 7%c; Fine Croshed, 7%c; Extra Powdered, 7%c; Circle A, 7%c; Extra C, 6%c; Confectioners' Circle A, 7%c; Extra C, 6%c; Golden C, 6c; Star Drips Syrup, in bbls, 20c; hf do, 22½c; 5-gall kegs, 27%c; 1 gall tins, 37%c per gallon.

Price list of the American Sugar Refinery dated October 23rd; Extra Fine Cube, in bbls, 7½c; Circle A, Crushed, 7½c; Fine Crushed, 7½c; Powdered, 7½c; Extra Fine Powdered, 8½c; Dry Granulated, c; 7½XX Dry Granulated, 7½c; Confectioners' Circle A, 7¾c; Extra C, 6¾c; Golden C, 6¾c; American Golden Syrup, in bbls, 20c per gallon.

In The San Francisco Market, Table Grapes are in light supply and very firm at an advance in prices. Wine Grapes are in fair demand. We are Wine Grapes \$12.00@\$15.7 ton for Zinfandel and \$10.00 @\$15.00 for other kinds; Table Grapes, 200@250.7 box for Black, 60@75c for Cornichons, 50@35c for Sweetwater, 30@60c for Tokays and 60@75c for Muscot.

THE LOS Getos and Saratoga Wine and Fruit Company has manufactured to date 120,000 gallons of wine, mostly claret, and lighter in quality than that made last senson, the demand for the table being for wine with less eight and sugar.

#### OF INTEREST TO WINE-MAKERS.

The following letter addressed to us by Messrs. Charles Meinecke & Co. of this city, explains itself and as its contents seem to be of special interest to our California wine makers and wine merchants, we cheerfully call their attention to its importance.

#### EDITOR MERCHANT:

We beg herewith to submit to you the following extract from Mr. A. Chevallier-Appert's last letter, which may prove interesting and useful to the wine makers and wine merchants of California. He says about: Oenotannin for white and red wines, I recommend earnestly that it be sprinkled on the grapes when they are going into the crusher or press, in order that it may pass, in the must, through the fermentation, controlling and regulating it, and that it may show its beneficient effect apon the young wine. This is for European wines, and the best method of using it. The Oenotannin can however also be used on fermented wines, young and old, as wanted. For the clarification afterwards of white and red wines you can safely recommend my Pulverine as superior to any clarifier used; its reputation is firmly established in all wine-making countries, and I am confident that your California wine makers will recognize its great merits after the first

Wishing to bring this communication to the notice of the wine interest of California, we beg you will kindly insert the above in the next issue of your valuable journa! and referring to our advertisements.

Yours, very respectfully,

CHARLES MEINECKE & Co,

P. S.—In conclusion we beg to state that Chevallier-Appert's Oenotamin and Pulverine have been analysed by Frofessor Rising of the State University, Berkeley, and recommended as perfectly safe for use in wines.

THE FOLLOWING telegram was recently sent to Congressman Morrow at Washington, D. C.:

Hou. W. W. Morrow, House of Represenfatives, Woshington, D. C .: The undersigned wine-dealers and members of the Wine-Dealers' Association of this city most earnestly oppose that part of the Senate Tariff Bill, Schedule II, placing only six cents specific duty per gallon on fruit juices. The adulterations of American wines heretofore complained of have been accomplished mainly through the use of cherry juice, which comes in under the denomination of fruit juices in tariff schedule. We look with alarm at the low tariff proposed for these articles as calculated to jeopardize tha best interests of American wines, and especially those of our State. Fruit juices should pay the same duty as wine under 24 per cent alcohol, and we earnestly orge you to ose your best influence to secure a measure in accordance with these expressions.

Signed: Arpad Haraszthy & Co., J. Gundlach & Co., C. Schilling & Co., Kohler & Frohling, Napa Valley Wine Co., S. Lachman & Co., B. Dreyfus & Co., C. Carpy & Co., Lachman & Jacobi, Kohler & Van Bergen.

#### REET-SUGAR DUTIES IN FRANCE

The London Economist says. A bill is now under discussion in the French Parliament to modify the sugar duties for the fourth time since the law of 1884, with a view of diminishing the bonus obtained by

of the production, the beet-root being worked up being taxed at an estimated yield of 6 per cent., whereas in that year it produced nearly 9 per cent. The new duty consisted, consequently, of a principal duty of 50 francs per 100 kilograms (2 cwt.), and a supplementary daty, or surtax, of 10 francs. The Government has now presented a bill to reduce the principal dnty to 40 francs and increase the surtax to 20 francs. The total duty on taxable augar remains the same, or 60 francs; but the duty on the surplus is to be increased from 10 to 20 francs, and the bonns or bounty, when sngar is manufactured in bond for exportation, becomes reduced from 50 to 40 francs. Friends of the manufacturers, comprising all the agricultural party in the Chamber, oppose the bill as an act of bad faith in taking back from producers a concession which had served as a basis for their operations. The Minister of Finance replies that manufacturers will obtain o partial compensation in the further increase in the yields this year to nearly 9% per cent. It was, besides, never contemplated that so large a portion of the revenue should be lost. In the first year of the system, established in 1884, the bouns of the manufacturers amounted to 25,000,000 francs; in the second to 43,000,000, in the third to 92,000,000, and in the present year with the surtax of 10 francs, it will still amount to 64,000,000 francs. The public will bave, consequently, paid in four years 225,000,000 francs in the form of duty on sugar not received by the treasury. It is true that the price of duty-paid augar in France fell from 104 francs per 100 kilograms in 1884 to 97 francs 50 centimes in 15\$7, notwithstanding the increase in the duty from 40 to 60 francs, and manufacturers pretend, which is, no doubt in a measure true, that the bonns has been shared between them and the consumer; but, on the other hand, the price of raw sugar has also fallen from the increased production, and to prevent Belgian and German sugar entering France, a surtax of 7 francs is levied on European sugar. The present bill is still under discussion, but in one or two divisions taken the majority for it was two to one, and little doubt exists that it will be voted. The law would, however, only be applied from September 1 next. An effect of it will be to reduce the indirect bounty on French sugar exported to England. The legal yield or taxable portion of sogar manufactured was raised on September I last from 6 to 7 per cent. A manufacturer working in bond for export discharges his bond on exporting in sogar 7 per cent. of the weight of beet-root taken in, and sells the surplus in France on payment of the surtax of 10 francs per 100 kilograms, the difference of 50 francs below the proper duty of 60 francs forming the indirect bounty. As the surtax is to be raised to 20 france the bounty will become reduced to 40 francs, but it will be obtained on a quantity equal to about one-fourth of SEND the "MERCHANT" to your friends

SEND the "MERCHANT" to your friend in the East.

San Francisco has now arrived at the most interesting period of its history. The wave of progress is gradually sweeping westward, bringing with it new ideas based on the broader and firmer views, developed by the costly experiences of a century in older cities of the Eastern States. Local improvements must be fostered and carried ont, and in this connection the condition of our streets is of permanent importance. The power in this direction for good or ill lies with the Soperintendent of Streets, on office about to be filled at the approaching election. The present incumbent, who is also a candidate for re-election on the Democratic ticket, has not folfilled the expectations of the people who placed him in office last election. This will undoubtedly elect Irvine Graham, the Republican Nominee, who, irrespective of the beneficial qualities generally escribed to new brooms, can be depended upon to conduct the business of his office untaminated by millionaire or co-operative influences, which have been the bane of the present regime.

C. S. LAUMEISTER, the Republican Nomines for the position of Sheriff, is a gentleman who can be depended upon to fill this most important office in a manner which will reflect credit on the party. He is no seeker after political preferment, and his nomination is the result of desire upon the part of a convention composed of representative citizens, to place before the electors of this city, names which will be a guarantee for honesty in the management of public affoirs, free from all taint of boss influences.

Mr. Laumeister has been identified with the commercial interests of this city for the past twenty years, as proprietor of the mills which bear his name. His ecceptance of the romination is a fitting subject of congratulation among all who have at heart the future welfare of San Francisco.

#### CIBA SUGAR MACHINES.

The German official Handels Archiv reports from Havana: "Machinery gives rise to great competition between French, British, German and American makers. Nine-tenths of the machinery imported into Cuba is for the sugar industry, and the remaining for manufacturing purposes of varions kinds. French makers occupied a very (avorable position at one time, bot this they have largely lost, owing to having neglected to keep up with the changes which have gone on in sugar machinery. The share of Great Britian in the supply of machinery is a large one. In comparison with the United States, Great Britian supplies cheaper material, but more costly workmunship. Hence the later country has the advantage in those articles in which the proportion of material to workmanship is large. The British manufacturer, who is also generally the exporter, shares no tronble or cost in order to learn the special needs of the island and facilitates sales by giving (avorable conditions of credit. These circumstances, combined with the sterling qualities of British productions, give them the first place in this market. Germany has been carying on a highly successful competition with France, Great Britian and North America. A special mention in this department is due to the British manufacturer who supply copper, brass and iron apparatus for the manufacture of sugar. The value of the German import of this class of goods in previous years may be estimated at about 2,000,000 marks, but in 1887 it only equaled 800,000 marks.

#### OUR NATIVE WINE SHIPMENTS BY SEA.

#### PER P. M. S. S. CO'S STEAMER CRANADA, OCT. 15, 1888.

TO	N	E	V.	Y	01	RK.	
----	---	---	----	---	----	-----	--

MARKS,	SUIPPERS.	PACKAGES AND CONTENTS.	GALLONS	SULAV
V Co	B Drevius & Co	. 10 barrels Wine	498	8366
11	1	25 barrels Wine	1.247	627
H		1 barrel Wine	50	66
H C	****	1 barrel Wine	50	4
H G M	Napa Valley Wine Co	. 6 barrels Wine	303	15
44	1+	1 half-barrel Brandy	25	5
V	& Carpy & Co	. 2 half barrels Brandy	56	12
44		To obtters wille	796	32
K . <b></b>		2 half-barrels Brandy	561	13
k Co		28 barrels Wine	1,395	60
		15 barrels Wine	752	28
C		2 barrels Brandy	94	20
М		1 cask Wine	61	10
	Lachman & Jacobi	. 46 barrels Wine	2,339	1,22
6.5	.1	2 barrels Brandy	95	2:
Co	C Schilling & Co	. 20 barrels Wine	946	4
****************		2 octaves Wine	55	
нн	16	3 octaves Wine	82	(
44	66	2 cases Brandy		:
1 C		3 octaves Wine	81	
I.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Aug Kuchne.	. 14 barrels Wine	1 1	
11	- " "	12 half-barrels Wine	720	36
	Eppinger & Co	. 2 quarter-casks Wine	65.	
F	Kohler & Frohling	. 50 barrels Wine	2,488	1.49
n diamond Bros	A Netter	. 24 barrels Wine	1	
61	14	12 half-puncheons Wine		
44	46	2 puncheons Wine	2,600	6
	Kohler & Van Bergen	. 10 casks Wina	1,079	36
0.0	1.	Sbarrels Wine	246	
n diamond		15 barrels Wine.	737	24
**	**	10 half barrels Brandy	246	43
a diamond		50 barrels Wine	2,455	8:
Bros	Napa Valley Wine Co	. 2 barrels Wine	102)	
11		1 case Wine	3	- 4
Total amount of Wi	ine. I case and		19,147	\$8,51
				1,13

#### TO CENTRAL AMERICA.

F A, Corinto	J Oundlach & Co	2 cases Whiskey		817
A E J, Puntas Arenas		4 barrels Wine	189	118
11		4 kegs Wine		52
46	4+	60 cases Wine		237
R P. La Union		16 cases Wine		64
R F, Lat Chich				32
that the trade-		4 cases Whiskey		
R S, La Union		21/2 barrels Wine	54	40
"		1 keg Wine	15	12
F A. Corinto		4 cases Brandy		28
"	"	2 barrel Wine	94	57
**	"	1 keg Wine	28	21
A D, Oces	E L G Stcele & Co	20 cases Wine		70
O C, La Libertad	John T Wright & Co	1 barrel Wine	50	30
R V. Amapala		6 kegs Wine	99	73
- 64		40 cases Wine		120
P.T. Puntas Arenas		14 kegs Wine	278	214
4	**	12 packages Wine		ŝŝ
Q & Q in diamond, La Union	84	6 packages Wine	1	46
H C in contara Corieta	Snower b Co	2 cases Wine	5	8
		4 barrels Wine		0
E R. LA Union	B Dreyius & Co		370	000
11 TF T . 15-1	1 ::	61 barrels Wine		300
V H, La Union	n 25 1	2 % barrels Wine	55	60
C P. San Jose de Quat		2 h barrels Wine	50	20
		1 ½ harrels Wine	14	8
L & C, San Jose de Quat		25 cases Wine		412
J C, Corinto	A Greenbaum & Co	3 half-barrels Wine	80	75
C S, Corinto		1 half-barrel Wine	27	20
M M. Corinto	16	5 kegs Wine	78	41
S D P. Corinto	Montealegre & Co	18 cases Wine		160
BB& Co, La Libertad	Bloom, Biruch & Co.,	1 balf-barrel Wine	27	20
11		3 half barrels Wine	155	101
E.C. Corinto	Eng de Sabla & Co	5 kegs Wine	95	68
L C, Amapala	11	10 kegs Wine	228	179
C S. Oces	**	20 cases Whiskey		134
M A Champerino	Cabrora Roma & Co	12 kegs Wine	120	120
A Champetico	leadiers' roma & co	.17 gegs attactive	120	120
Total amount of Wine	107		0.100	\$2,832
				28
Total amount of whisk	y, 20 cases and	• • • • • • • • • • • • • • • • • • • •		183

#### TO MEXICO.

O H, San Blas Thaunhauser & Co, 2 cases Wine	1	\$12 33
L & W, Mazatlan L F Lastreta	30	33
L & W. MazztlanL F Lastreta 1 keg Whiskey	5 59	15
BT, San Blas Thannhauser & Co 1 cask Wine	59	24
J M. San Blas	150	150
H S, San Blas. 1 barrel Wine. 1 barrel Wine. 2 casks Wine.	48	40
A O & C	115	46
The state of the s		
Total amount of Wine, 2 cases and		\$305
Total amount of Whiskey	51	15

#### TO PANAMA.

M C.         Urrela & Urioste.         50 cases Wine.         18           J V.         A G Chauchi.         1 case Claret.         18
J V A G Chauchi 1 case Claret
1 case White Winc
J M. LF Lastreta 15 cases Wine 4
"   1 cask Wine 60   2
1 half-barrel Wine 28
Total amount of Wine, 67 cases and

#### TO GERMANY.

H T   C Carpy Co   2 half barrels Wine	54	\$54
TO HONOLULU — PER STEAMER AUSTRALIA.		
N H Wilmerding & Co   1 barrel Whiskey	301	\$40
G in diamond	1,400	1,164
FAS&CoC Schilling & Co2 casks Wine	124	75
2 harrels Wine	66	40
H J Wilmerding & Co 5 cases Whiskey	12	52
" Arpad Haraszthy & Co 5 barrels Wine	247	175
" 50 kegs Wine	250	222
13 kegs Wine	130	109
WSLin diamond S Lachman & Co 4 barrels Wine	206	181
W L L Lenormand Bros. 3 barrels Wine	151	98
The parties of the state of the	101	<i>D</i> C
Total amount of Wine	2,574 42	\$2,064 90

#### MISCELLANEOUS SHIPMENTS

DESTINATION.	VESSEL,	RIO.	O ALLONB.	VALU
Honolulu	Forest Queen,	Bark	057	
Altata	E. Schroeder	Schooner	352	1
Japan	City of New York	Steamer	153	
Kaholin	Anna	Schooner	69	
Victoria	Mexico	Steamer	614	
Japan	Selgic	Steamer	192	
Scotland	John McDonald	Ship	50	
England		Ship	26	
France	"	Ship	204	
Total		•	2.315	8
Total Shipments by Par Total Miscellaneous shi	nama steamers			\$11,98 3,27
Grand totals		26.70	60	\$15,20

# 300,000 FRUIT TREES TRUMBULL & REERES' NURSERIES

(ESTABLISHED 1852),

We offer for the season of 1888-89 a large and very complete assortmen FRUIT TREES grown absolutely without irrigation.

Also Ornamental and Shade Trees, Nut Trees, Orange and Lemon Trees, Small Fruits, Grape V Evergreens, Hedge Plants, Shrubs, Roses, Bulbs, Seeds, etc., etc.

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(Present Incumbent).

For City and County Attorney,

GEO. FLOURNOY, Jr.

REGULAR DEMOCRATIC NOMINEE.

C. S. LAUMEISTER,

Republican Nominee for

SHERIFF.

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All Unirrigated and Free from Disease, The

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NAPA CITY, - - CALIFORNIA.

#### FROM LEFT TO RIGHT.

Dr. Delannay, a French scientist, ass that centrifugal movement of the hand that is, from left to right-is character of intelligence and higher developm centripetal, or the reverse, is indicative incomplete evolution. Ha auggests thi a scientific test in employing aervanta others. To ascertain the qualities o applicant cook give her a plate to clea a sance to make, and watch how she m her hand in either act. If she mov from left to right, or in the direction of hands of his watch, you may trust her the other way, she is certain to be at and incapable. The intelligence of pe may also be gauged by asking ther make a circle on paper with a pencil, noting in which direction the han moved. The good students in a me matical class draw circles from left to r "Down East" a similar test of "facu has existed from the earliest day. Yankee farmer would hire "a hand" "storekeeper" employ a clerk who sh whittle to him instead of from him.

#### PRUNING IN AUTUMN.

An experienced grapa culturist, in P lar Gardening, for the benefit of proj tura, saya: I would, when pruning i autumn or winter, preserve as much o well-ripened wood as possible, and, cutting into lengths of about one foot, in boxes of sand and place in a cool until spring, when they can be placed side, choosing a moist and somewhat sh situation. Plant in mellow soil in made by a spade and firm the earth about them. Keep them in rowa eig ten inches apart, and five or six apa the row. If possible, let each cutting three huds, one at the top, one at the tom and a third in the middle, to be I the anriace of the ground when the cu is planted. Thus treated no mulchi required, but they must be kept free weeds.

Subscribe for the MARCHANT.

#### OLIVE RANCH OF 448 ACRES,

or 240 acres in one place and 208 in the ther. Sold together or apart, having 1,000 olives planted, and commence to ear in 1887. Fully equipped with buildags, agricultural tools, horses, etc. Sixty ons of hay and plenty of grain; fine stream water, Title perfect, Sitnated in Santa larbara county, near Los Olivos depot. Vill aell at a bargain,

For particulars apply to

INCORPORATED 1881.

W. A. HAYNE, Jr.,

#### FARM FOR

Two hundred acres in Sonoma County, ten minutes drive from railroad station, Forty acres planted to the finest variety of vines. The balunce rich river bottom, and rolling land capable of the highest cultivation. Several never failing springs and plenty of oak and redwood timber on the property. Good house, large barn, and out buildings. Scenery, climate and roads unexcelled. Good fishing and hunting in the neighborhood all the year round. One f the most elegant and profitable suburban homes in Northern California,

W. A. HAYNE, Jr., Inquire of "W. H.," office of the San

460 ACRES

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# LARGEST STOCK ON THE PACIFIC COAST

Fruit Trees, Olives, Oranges and Lemons, Nut Trees, Wine and Table Grapes, Berry Plants, Shade Trees, Evergreens, Shrubs, Roses, Etc., Etc., Etc.

FOR COMPLETE LIST, SEND FOR OUR NEW CATALOGUE,

- - CALIFORNIA NURSERY CO. OHN ROCK, Manager.

Niles, Alameda County, Cal.



SECURITY CALIFORNIA WINERY AND

Wines Stored and Loans Negotiated on Pure Sound Wines Only. A. PELLET of St. Helena will superintend the careful treatment of the Wines stored, and will issue cates on oraturity of their genuineness.

D. M. CASHIN, Secretary WAREHOUSES Formerly sugar refluiries, Eighth and Brannan Sts. OFFICE—303 Battery St.

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IN CREEN AND DRIED FRUITS, NUTS, Etc.

DESICCATED COCOANUT, Manufacturing every day. Ask your Grocer for Pioneer brand. It is the best and cheapest in the world. Medals awarded in all Fairs where exhibited.

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#### OF SAN FRANCISCO, CAL.

		C	CAPITAL.	ASSETS.
JANUARY	1,	1875	\$ 300,000	\$ 747,488 45
JANUARY	1,	1880	750,000	1,160,017 00
JANUARY	1,	1885	. 1,000,000	2,181,925 18

#### Losses Paid in Twenty-five Years, \$7,500,000 00.

D. J. STAPLES, President. ALPHEUS BULL, Vice-Presiden, WM. J. DUTTON, Secretary, B. FAYMONVILLE, Asst. Secretary.

CHALLENGE

# Double Acting Wine Force Pump



The annexed out represents our Horizontal Challerge Wire Imp, of great compactness and power, for use in some cestors for pumping from one tank into another. The Cylinders of our Iron Pumps are brass lined, the pixtor not, valves, and valve seats are brass. Our all Brass Pumps are mide entirely of brass, with the exception of the lever, and at an extra charge we will furnish them also with all metallic valves.

The water-ways are large and very direct, and the whole pump is so simple that there is no liability to get out of order, and so substantial as to be very endouring. This Pump is extensively tused by Wine Men. Being compact it is easily removed from place to place. The arrangement of the lever makes it less laborious to work than the ordinary lever. We recommend this Pump to wine dealers as the most serviceable Pump for their requirements, and guarantee them equal in every respect to any Pump for this purpose in the market.

EACH PIMP IS GUARANTEED.

We carry a full line of Wine, Erevers' Garden and Steam Hose full sizes and qualities. Wine Coess of all descriptions. Hine and Fermenting Tanks. Send for paices.

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COMMISSION MERCHANTS,

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# Sole Agents Pacific Coast.

Royal Baking Powder.

Kingsford's Oswego Starch, Walter Baker & Co's Chocolates and Cocoa John Dwight & Co's Soda.

We will offer a full line of other Grocers' articles shortly.

#### THE VINE LEAF.

In discussing the following item which appeared in the Vineyardists recently, recomeoding a process which the editor wisely says should be tried "on a few vines only." Dr. McCarty says:

"A writer, who claims to speak from actual experience, says that the perfect ripening of the later varieties of grapes can be assured, in good season, by clipping off the longest vines a foot or two, in summer, about the time the fruit is coming to its full growth,—the season given being that the sweet jnice required to sustain these longest canes at their ends will then be appropriated by the fruit, and aid both in ripening it early and making it sweeter then it would otherwise be. We advise trying this experiment on a few vines only, and with caution."

Against this pruning some objections may be made on purely scientific grounds. A continued series of investigations have been made in the grape producing regions of France, showing that a most important part in the formation of the fruit is performed by the leaves of the grape-vine. A parge number of analysis show that the leaves coutsin glucose (graps sugar) and cream of tartar, substances which enter largely ioto the composition of the grape, M. Macagae, a very emigent scientist, found in the menth of June, in one kilogram of leaves, 14.24 grammes of glucose and 7.4 grammes of tartar. As the season advanced, these quantities increased, until at the vintage, they had nearely doubled. He also found these substances in the branches, but in smaller proportions, and he concludes that the leaves are the laboratory in which the first material of the fruit is formed, and that from there it is conducted by the branches to the clusters. After the grapes had ripened, these substances mentioned disappeared from the leaves almost immediately. In July, 1887, he removed the leaves from a certain number of vines in a vineyard under full culture, leaving the remainder in their natural condition. The analysis which he made in September showed that the latter had produced per kilogram 620 grammes of pulp, while the others only 581 grammes, and the proportion of Saccharine matter was 175 grammes to 140. This at least shows us that the leaf is more than a mere shade to the vine. To cut off these "green bunners" in order to let in the suu-light as some argue, and thus to hasten the ripening process would be according to M. Macagno very much like the man who planted his beans and they came up"wrong end to" and so pulled them up and reversed them. It is best to "let nature have her way"-She is very wise, and if interfered with generally resents the insult.

It is well to note the experience of vineyardists in other lands as well as in our own country. French horticulturists and vineyardists have carried science to very great perfection. For instance it has been ascertained that the grupe undergoes certain changes while ripening. During the process they revolve carbonic acid in darkness as well as in the light when exposed to the air or put in an indiffernt gas. The amount of oxygen evolved in air is always in excess of the oxygen taken up; this has been remarked in the case of observations extending over a long space of time. Grapes shoot or give off water according as they are placed in a moist or dry medium. As the change goes on the acids decrease in

amount while the quantity of sugar increases. The ucids and the glucose are carried to the grapes by the sap. Here the acids are slowly consumed, while the sugar increases in point of concentration, and at a still later stage the sugar itself is consumed. Every grape vine is one of Nature's laboratories—where the delicate combinations are being fermed constantly.

#### WASHES FOR FRUIT TREES.

D. W. Coquillet of Los Angeles on washes for frait trees says: While the spraying of trees for the destruction of scals insects has not proved as satisfactory as could be wished, yet when properly done, and an effective wash has been used, it has had the effect of greatly lessening the number of these pests upon the trees thus sprayed, and while there is every reason for believing that the gas treatment will in the main supersede spraying, yet there will always be cases where it will be desirable to use a wash of some kind, such as upon plants or vines trained against a wall, or otherwise so situated that it would be impossible to cover them with a tent prior to fumigating them.

One of the best washes I have used for the destruction of scale insects consists of caustic soda, resin and water, in the following proportions: Caustic soda, one pound; resin, tea pounds; water, to make forty gallons. The caustic soda is first dissolved by boiling in one and a half gallons of water, and when dissolved one half the solution is taken out, and the resin added to that remaining in the kettle. If this precantion is not taken, and the resin is added to the whole of the soda solution, the latter is very liable to "boil over." After all of the resin is dissolved, add slowly the balance of the sods solution. and boil until the mixture will assimilate with water; this can be ascertained by occasionally dipping out a small quantity of the mixture and adding water to it, as when properly cooked it will assimilate with water, like milk, but if it has not been boiled sufficiently it will form a ropy mass in the bottom of the vessel. During the boiling process the solution should be frequently stirred, and if it shows signs of boiling over a small quantity of water should be added, but not too much, or the cooking of the mixture will be delayed. While the mixtore is boiling a foam will be formed upon its surface, usually equaling in height the depth of the mixture in the vessel, being composed of very small bubbles. On one occasion, when I was superintenaing the boiling of some of this mixture, the latter did not form such a foam upon its surface, but in its stead produced bubbles; this doubtless resulted from the fact that the mixture did not contain a sufficient quantity of the caustic soda solution to properly saponity the resin; accordingly I added more of the soda solution, and in a short time the mixture produced the usual foam in small bubbles upon its surface. When sufficiently cooked that it will assimilate with water like milk, which it resembles, it should be measured and poured into a barrel or vessel, and sufficient water added to make forty gullons; the water should be added very slowly, the mixture in the mean time being thoroughly

#### RAISINS.

sbsorb or give off water according us they are placed in a moist or dry medium. As the change goes on the acids decrease in a citizen of Riverside, the Press and Horti

culturist makes the following extract, which we publish for the benefit of our raisin producers:

"The raisin situation has been more unsettled this year than we have ever known it. Certain parties have spread reports of there being enormous crops in California and Europe and that the result would be very low prices. As buyers always believe the ones who tell them this, the contradiction of those who had facilities for obtaining reliable information have been ignored, with the result that we are now on the edge of the active demand and no one has any raisins. The result has been an advance in the past few days from 61/2 cents for Valenciss, a loss, to 71/2 cents, which is as low as they ought to have been at all. The present estimates are 750,000 boxes for your erop,-or just about the same as last year,and 2,500,000 boxes of Valencias, 800,000 less than last year, with the Malaga crop so small as not to cut any figure for this country. This makes a total reduction of 1,500,000 boxes in the crop of the world from the figures at first predicted. much for statistics. The demand is just beginning and we see no resson why it should not be as setive as usual this year. The quantity of California raisins sold has been very much exaggerated as well as the prices obtained, certainly none of our bayers have made any large purchases. If you have now any raisins for shipment you canno' ship them to soon to strike the best market.

#### RAISIN PACKERS AND PRODUCERS.

The present system in the raisin business and the relation between packers and producers is considered, says the Fresno Expositor, as very unsatisfactory to the raisin growers, and will no doubt soon be considered the same by the packers themselves. Its chief defects are that it lowers the standard of raisins all around, and thus tends to destroy, or at least seriously injure the business. A few pears ago, when the raisin business was yet in its infancy and the growers did their own packing, their constant endeavors were to produce as large and fine raisios as possible, and rivalry between large and small vineyards produced excellent results. When the packers started in they were bailed with delight by every raisin grower, and it was with good reason expected that the business would not only be simplified, but it would be greatly benefitted, and the standard of the raisins both as regards quality of berries and pack gratly advanced. Experience, however, is proving that these hopes are not being fulfilled. If these same methods now ememployed he maintained a few more years to come, we are satisfied that the high standard of our raisins will not and cannot be maintained. The fault does not lie with the packers alone, but in the system emplayed and the raisin-grower in throwing all the care of packing on the packers at the same time is responsible for much of the mischief done. In the early part of the season the packers contract for raisina dedelivered in sweathoxea at a certain figure per pound-say, five cents, as at present. They stipulate that the raisios are to be delivered within a certain period, the earlier the better. The raisins are assorted in two grades-loose and in layers-but for these no difference is made in the price paid. All the raisins must be overdried, else they will not be accepted. These, in short, are

his small banches, his loose raising trash, as for his largest, finest c which need more care and dry slow all his endeavors are concentrated in his raisins quickly, so as to get t market and get his money. To quick drying, he favors a quantity o bunches, which dry so much faster th large ones, and the latter he cuts vides so as to make them dry quick no, premium is paid for large h and fruit with intact bloom, the take no special pains in handling bunches, and, with the system em he is not only warranted in this o way of headling and curing his but forced to do so. We know of ers whose whole crop was left to d sun-scald on the vines who actual paid as much for fourth-class rai those who had taken psios and special time and money to produce class article. What the outcome system will be is not difficult to see stead of being at the head of the li will be at the tail end, and once on: tation is ruined we will have gres colty in regaining the same. As to dies, there are at least two. One is terested growers to join or pack sep so as to get a high standard; the o for packers and buyers of raisins in boxes to pay according to quality, a according to bulk. Loose layers an ters should all be paid for separatel effect would be that all the careless ers, who now step in to divide the with those who, with care and exper of money produce the No. 1 grade, find it to their advantage to produ very best, too. This very system, in among wine-makers and dealers, can near wrecking that business, and i very great extent, the canse of the depression in wine prices. Shall the men of this State allow the same sys ruin their business, or shall we a change before any further harm is d

#### NEW ZEALAND SUGAR.

Consul Campbell, of Auckland, lengthy report on the sugar trade dustry in New Zealand, referring production of refined sugar in the says: "The materials for making are not grown in New Zealand, but ported, and sugar is made and refine A large quantity is used in beer, were about 9,000 tons refined here the year 1887. The sugar works Waitemeta Bay, near this place, turn large quantity of fine sugar, supply trade in the colony and exporting quantity to the islands of the Pacific quantity refined in the year 1887 fr raw materials imported was about tons. Import of raw sugar, 198,34 dred weight; refined sugar, 279,920; 6,634; molasses-treacle, 3,741. The is so trifling in quantity that it is worth stating."

#### A GOODLY YINE.

The Alhambra notes one of the worgrowths of the vegetable, peculiar formia, is the grape vioe at Bayly Gabriel Hotel. The vine is 4 inches in circumference, and some branches are 15 inches in circumferer 100 feet long. Fifty-five years age Vallejo, a young man of 40 years under its shady branches, and could it but feet the gratitude expret the tired tourist as he partakes of his under its lovely subors, it would wish to live another contury.

#### ST OF PLANTING AN ORCHARD.

one of the most frequent questions asked correspondents living in the Eastern tes is the cost involved in setting ont un hard. There have been various attrupts answer, but they have been defective, ing to local causes. The following, prered by Leonard Coates, of Napa, a wellown norseryman, may be taken as a de in estimating the cost of a bearing hard:

e contract price in Central California for preparing an orchard of deciduous is about \$8 per acre. The average cost of trees is \$15 per 100, and the average num-

e total cost up to the time the orchard is 1 year old (exclusive of price of land, which can be bought at from \$20 to \$150 per

The second year the cost will be-nning and hocing..... 2 00 raying ..... planting missing trees..... a total of.....\$14 00

The third year one plowing will suffice, ich will reduce the expense by \$2 per e; the other items will be about the me, except the replanting which will ve to be done. This year from a peach chard a little fruit will be marketed, and following year a crop worth \$50 to \$75 r acre. Apricots, almonds and nectars will also bear the fourth year, and me varieties of plums. The fifth year anes, apples and pears will begin to bear, d after that the orchard will be started, ples and pears being in their prime at or twelve years, and most other fruits from five to seven years. After the third ar the expense per acre will vary from 2 to \$20, according to the amount of raying and pruning to be done. I always vocate more or less summer pruning in ong orchards, which can be done at odd are and will much lessen the winter exnses.

r tree, or (following the above estimate) 47 50 per acre gross, at 11/2 cents per and, a net income of \$135 per acre will realized, allowing for all expenses of irketing the fruit, but exclusive of the erest on the investment. Of course, ininces are common when the profits have en doubled and even quadrupled; but y object is to place before business men ures on which they may place their cal-

le full bearing, at 150 pounds of fruit

#### CALIFORNIA RAISINS.

A correspondent of the Boston Herald, iting from some point in New Mexico, is anxious to make a point in favor of that rritory that he, unintentionally or otherse, does a gross injustice to California. pearing in so prominent a paper as the rald, its merits notice, which would not ferred to says:

"The culture of the raisin grape is a ost profitable industry. The demand is great that the acreage is increasing rgely in California, and New Mexico has its climate a factor that makes it superior California for that purpose. In Calirnia the air is so humid in the vineyard

getting the grapes to cure properly, that the Southern Pacific Company carries the grapes for the growers free of charge to the Mohave desert to be dried in the suitable air of that arid region. The atmosphere of New Mexico is, however, so dry that the raisins can be cured on the spot where grown, at the minimum of trouble and cost. We may, therefore, look to see a great development of raisin culture here, So great have the resources of the Mesilla region of the Rio Grande Valley proven that a great demand for land has sprung up there, and sales of favorably located property have been made as high as \$125 an acre, a price that seems high for New Mexico, but which would be extremely low for like land in California,"

Doubtless this will cause the raisin growers of this State to smile at the ignorance or worse which could make statements so divergent from the trnth as those quoted. The growers and packers of the million or so of boxes of raisins produced in San Bernardino, San Diego, Fresno and other counties, will learn with surprise that the atmosphere in those localities is so hamid as to prevent the proper curing of raisins, To be sure, this alleged fact had hitherto escaped them. In their dense ignorance they have gone on for years drying their grapes in the open air in the vineyard where they grew and converting the fruit into raisins that are freely acknowledged to be the equal of the imported, and as near perfection as a raisin can be. But now all this is changed. To their surprise and grief they now learn that this has all been wrong, and that it is useless longer to keep on in the same pathway. They must now either send their grapes to the Mohave desert to be dried, or else all emigrate to New Mexico and begin over again,

But seriously, what is the use of trying to tear down one section in the hope of building another, as is here done. It is true that some years since the owner of a Muscat vineyard, in a locality so near the coast as to be within the fog line, found himself one year unable to cure his raisins in the open air, and so shipped a carload or two to the desert to have them dried there. But the experiment was a failure. His experience was simply an additional proof of the fact that the raisin grower, the orange grower and the cultivator of any kind of fruit that requires to be dried in the open sir, should locate as far away from the coast as possible. Ninety-nine hundredths of the raisin vineyards in California are so located, and it is not probable that a single box of the million and a half now being packed will be dried auywhere but in the same vineyard where the grapes were pro-

There is another error in the quotation given which should be corrected, and that is in regard to the price of land adapted to misin culture. It is stated that \$125 au aera would be considered extremely low in California for such land. There are thousands of acres of land in Fresno, Merced. Tnlare and other central counties which are adapted to the cultivation of the Musthe casa otherwise. The correspondent cat grape, and for which \$125 an acre would be considered a very high price, instead of a low one. Indeed, good grape land may be purchased in those counties for as low as \$100 an acre. Further south the price is higher, though the best raisin land, close to the railroads and towns, may be had for \$150 to \$200 an acre. And when, as is actually the case at present,

vineyards not over six years old from \$150 Marysville, wrote to Mr. Marshall, desiring to \$200 an acre mounally, these prices are not at all out of the way, but on the coutrary may well be considered as low,-Ex

#### LAND TOO RICH FOR PRUIT.

A corresponden of the Rural Press says: The general impression seems to be that land cannot be too rich for fruit. Theoretically it cannot, but practically I am couvinced it can be. Most writers of borticultural subjects say that any land that will raise good corn will he good for fruit. I never saw any land too rich for corn, but I have seen it too rich for fruit. Land may contain so much humas or plant food that a large growth of wood will be made and but a small quantity of fruit be produced, just as land may contain so much plant food as to grow heavy straw, but yield little or no grain. There are two orchards of about 1000 trees each nesr Salinas, Monterey county, that show clearly that land may hee too rich for fruit. The trees in these orchards are young and have made a re markable growth of wood. Many of them had such large, dense tops that the wind had swayed them over, and it became necessary to give them a somewhat severe pruning last winter, having been neglected in this respect for some time. No plowing was done in one of these orchards, the ground being merely cultivated, and no crop was planted. The other orchard was plowed very shallow, and not very near the trees, and some corn, beans and pumpkins planted. On visiting these orchards recently, I was amazed to see the wonderful growth of wood the trees had made and the small amount of fruit there was. From the number of fruit buds left at the time of pruning, there should have been all the fruit the trees ought to carry, but in neither orchard will there be 100 boxes of fruit, whereas there should be 1000. Now, the trees having made such a remarkable growth of wood at top, must, of course, have remarkably vigorous and wide-spreading roots. As the roots were not pruned nor broken any by the plow, as they should have been, all their strength was left to renew the branches cut off at the time of pruning, and most faithfully have they used this vitality to grow enormous tops to the trees. Then the rank growth of weeds, up to one's hips, is another evidence of the superabundance of plant food in the soil. Here in the foothills, where there is less homus and mora mineral substances in the soil, our trees are loaded down with fruit. even to breaking down of many limbs.

Evidently the remedy in such cases is to root-prane, by plowing as well as to topprouing, exhausting the excess of humus by cropping the ground with some root or vine crop, and by a liberal application of lime and ashea. I am confident now that the reason of the failure of the orehard to produce fruit on another ranch which I knew in Yolo county was the same as mentioned above.

#### WILD BERRIES FOR PROFIT,

The new scheme of Mr. C. Marshall, of Colusa, in planting wild strawberries on his premises has been widely copied in differeut papers of this State, and it is exciting the curiosity of horticulturists in general. His ideas in this connection, remarks the Democrat, are likely to foreshadow a movement that will prove of great benefit to gions, and there is so much difficulty in raisin crops are netting their owners from fruit-growers. A geutleman, who lives in

information with regard to time of planting, mode of cultivation, etc., all of which Mr. Marshall kindly answered. He proposes to try wild respherries next season. It is a well-settled fact that our native raspberries, strawberries and blackberries are of far better flavor than the imported tame berries of the same name, and knowing this to be a fact, it is very strange that people have not endeavored to propagate them extensively. The writer is familiar with the growing places of all the aboveusined b. tries. About fifty miles west of Willows, on the coast rauge mountains, is a wild raspberry patch of about fifty or sixty acres. These bushes can also be obtained from Snow Monutain. On the summit of any one of our large mountains can be found the wild strawberry. As it is a question whether they can be grown in the valley, it would be well for some person to try their adaptability to valley soil. The wild blackberry grows in abundance slong rivers and water courses of our State, and would probably thrive well on the plains it properly cultivated and irrigated. The wortleberry (or huckleberry) is very plentiful along the coast near Mendocino City. They have been tested in the valley, but the experimenters have come to the conclusion that they require the fogs and ses breezes to make them grow and mature properly. In the same locality can be found the highbush cranberry, a very delicious, transparent fruit, but in other respects resembles the ordinary swamp cranberry. We would advise our orchardists to plant these trees very extensively, as they grow to a good height and resemble the olive tree. The wild gooseb rry, plum, cherry and hazel nut are also found along the coast and should be tried. The wild grape will grow prolificulty in the valley lands, and can be trained to make a fine arbor. This grape makes a very fine wine and an excellent jelly. Mr. Marshall proposes to obtain a large number of dewberry vines from Ohio this fall sud experiment with them.

#### A DESTRUCTIVE BUG

And now an enemy of the olive has been found, says the Tulare Register, a hardshell bug which bores into the heart of the tree to sap its vitality. There are some mighty queer circumstances in this world of ours. Fow a weeed or any plant not used which we call a weed for want of a better term-will grow by a dusty highway, on a vacant lot or over back of the stable. So long as it is let alone it will flourish without water, without air, and wax fat on adverse conditions alone. So will a tree which produces some little, sour, puckery fruit of no use to man or beast. But just let sama ambitions mortal undertake to cultivate that sort of v getation, and what do we see? Why, bugs bore it, flies sting it, worms gnaw it, birds peck it, winds twist it, droughts scoreh it, and all kinds of abourinable luck drop down apon it in a bunch, It is a constant source of trouble and vexation of spirit. The only way to get rid of a pernicious plant is to cultivate it, and the only way to encourage some plants is to dig them up and fire them over the fence. There is probably not a man alive who would not jump at the chance to take a look through the machinery of old patere just to learn why she is made as she is.

RIVERSIDE'S raisin crop for this year is estimated at \$200,000 to \$250,000.



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# Registration for the General Election

All electors desiring to vote at the General Election to be held Novemb r 6, 1888, must he registered regardless of any previous

registration.

R gistration for the General Election to be held November 6, 1888, will commence at the Office of the Register of Voters, in the basement of the New City Hall, on WEDNESDAY, August 8, 1888, and will continue until MONDAY, October 15, 1888, inclusive. Office hours from 9 o'clock A.M. to 5 o'clock P.M.

The registration of voters in the precincts will be held from October 16th to 20th in-clusive. By order of the Board of Election BEN, A. PRINDLE, Commissioners,

August 4, 1888. Registrar,

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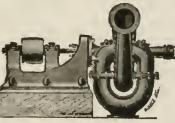
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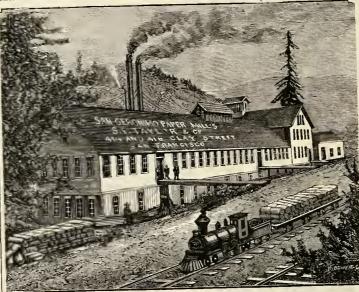
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#### INSECT-KILLING FUNGL

VEGETABLE PARASITES THE CAUSE OF DISEASES ATTACKING MAN AND ANIMALS.

An Interesting Description of these Microscopic l'angi lu a Bulletiu issued by Experimental Station of Minnesuta.

It is now a well-known fact, that quite a large number of diseases attacking plants, animals and man are produced by very lowly organized plants. These vegetable parasites nearly all belong to the cryptogamous or flowerless plants, and are most usually called microscopic fungi. Fungi infesting plants were well known since time immerial, but no one supposed them to be the cause of a disease; they were considered simply as the products of peculiar almormal conditions of the parts of a plant upon which they were found growing. Only quite recently the investigations of Tulasue, de Bary, Kuchn and other students of microscopic organisms proved beyond any doubt, that all such vegetable pasasites were produced-like every other plantfrom seeds or spores, and that their growth in or upon other plants produced a diseased condition of its host, and eventually its death. The most indubitable proofs for such a statement consisted in artificially infecting a healthy plant with germs of the parasites taken from a diseased one, and by thus producing in due time the same Furthermore, the actions of many of these vegetable parasites have been followed step by step with the microscope: The germination of the spore upon the infested plant, its cotrance into that plant, the formation and growth of mycehum and later of the spores were all closely observed, and thus the course of the disease was made quite plain.

It would take up too much space to even mention the numerous parastic tungs which produce disease in plants. They belong to several families of cryptogamous plants, and consequently are quite different in their respective actions. Prof. F. Lamson Scribner, in the reports of the Department the last three years described and illustrated

ing grape vines. His excellent papers should be read by those interested in such matters, as being both instructive and of conomic importance. As familiar instances of fungi producing disease I mention: blights, rusts, mild w, smuts, etc.

A disease in plants or nuimals produced by fungi usually takes the following course; The spores penetrating to the interior of their host, and their rapidly growing and multiplying, soon take disintegration of the attacked healthy organs, and eventually either a slow or a sudden death. It is not by any means always easy to prove, that the presence of fougi is the cause or the effect of a disease, but in quite a large number of cases-aside from the diseases in plants produced by them-we know positively that they are the cause, and not the ffect.

As an illustration of the fact that invisibly small plants are able to occasion either immense losses or great good, I simply mension the various and better known contagious diseases which kill our domesti. cated animala. It is not alone well-known, but can also be demonstrated, that the Rinderpest, Texas Fever, Pleuro-pneumouia, Charbon, Black Quarter Tuberculosis, Hog Cholera, Fowl Cholera and numerous other diseases are each caused by a different species of bacterium. Broadly speaking or nearly-if not all-contagions diseases are due to the rapid multiplication of such small plants in the one or the other organ or organs of the affected animal. Nor is man himself exempt from their inroads, as Cholera, Yellow Fever, Scarlet Fever, Small Pox and a host of other diseases too plainly prove.

The same assertion can be made in regard of insects killed by contagious diseases, and such diseases are by no menus as isolated and rare as roost people seem to think. If we examine carefully dead leaves and moss, principally in wet places of after a rainy season in summer or autumn, we will sorely find large numbers of insects killed by various species of fungi. In turning over an old piece of decaying board quite frequently unmerous dead ants can be seen fastened to it, and all phinly show the cause of their death by being surrounded with mycelium threads, or by having a horn like process growing through the soft inteof Agriculture in Washington, has during gument between their heads and thorax. During the past summer diseases of similar

for study could be obtained without much trouble. Certain plant-lice, frequently found upon clover, could be seen in vast numbers upon the leaves of that plant, dead and surrounded and imbedded by spores. In fact I found it rather difficult to mature certain caterpillars in confinement, and had to shift the position of my breeding boxes quite frequently to insure anccess. Various caterpillars, chiefly those of our gaudy diarnal butterflies, all died from the effects of a disease produced by a fungus, and patches of their food-plants were draped with their black and putrid bodies. Chinch Bugs suffer grately by one of these diseases, as will be mentioned later. Even the common Two-striped Locust (Calopteaus bivittatus), usu illy a rather tough insect and proof against the usual ailments of insects, were killed in numbers by a vegetable disease. The specimen here referred to showed no outward indications of any disease, and as no spores were visible, it had the apperance of having been killed by a parasitic insect, by a Tacbina fly. But closer investigation showed no evident trace of such being the case; on the contrary, the whole inside of the dead locust was filled with a white, powdery material, composed of mycelial threads, and strongly smelling like some of our common toad. stools.

It is not my intention to minutely describe the numerous species of fungi that kill insects, but simply to mention and illustrate a few of the mora important ones, to give the render an idea of these lowly organized plants. Some of the illustrations were borrowed from the "Lehrbuch der Mitteleuropæischen Forstiusekten-kunde" by Drs. Judiceh and Nitsche, Some of these fungi occasion great losses to the silk growers and bee raisers; others are of great value in assisting us to combat our injurious insects. Future investigations and careful experiments may still give us the means to produce such diseases as will, and at a time when their assistance is most needed. 1 refer to the artificial culture of the fungi which produce disease. If this should ever become possible-nud there is but little doubt that it will-practical entomology will have a new and most important assistant in fighting noxious insects, even in places where their presence is only sus-

The fungi which kill insects belong principally to the orders Schizomycetes, a number of them, but chiefly those affect- characters were quite common, and material comycetes and Entomorphthorew,

SCHIZOMYCETES OR BACTERIA.

These fungi are exceedingly small organs, each consisting of a single cell. They multiply by self-division. The cells are of various shapes, some are globular, others oval, elliptical or cylindrical; they occur either singly, in pairs, or united in either threadlike or chain-like massea. Some are without any motion, others move by meana of whip-like organs, more or less rapidly, but even these latter enter stages in which no motion is visible. In this case they are imbededd in a jelly-like material.

Large numbers of insects are killed by the various apecies of fungi composing this order, but only two of them have been studied more thoroughly.

The flaccidity (flacherie, maladie des morts, blaues, schlaffsucht) is produced by Micrococcus bombycis Cohn. This disense is in some years so prevailing in some countries that it prevents a successful silkculture. An excellent article prepared by Prof. C. V. Riley on this and other diseases attacking the silkworms can be found in Bulletin No. 7 of the U. S. Agricultural Department, which forms a "Manual of Instructions in Silk Culture." This disease was quite common this summer, attacking the caterpillars of our most common and beautiful butterflies. Pyrameis atnlanta, Pyrameis cardui, Vanessa autiopa and Vanessa grapta were killed in vast nombers, both near the Experiment Station and in Otter Tail county. A few spores, introduced into a caterpillar either with food contaminated by a diseased one, or from the outside, multiply with great rapidity, and soon disintegrate the blood and tissues, thus causing decay and death. As this diaease is very contagious tha caterpillars of above insects, which are to some extent gregarinos, as their food-plants: Nettles, hops, etc., are quite local and usually grow in patches, soon all die in any given locality. Newcomers, produced from bealthy eggs laid by butterflies attracted from a distance to these inviting stores of food, also soon become diseased, probably from spores left upon the leaves by the former victima.

The "Faulbrood" of our honey bee is al o produced by a similar plant, the Bacillus melitophthorus or alvei. This disease is well-known in many regions, and frequently threatens to put for the time a stop to any further attempts in raising been.

The "Pebrine," another disease of the

ailk-worm, is also produced by low organisms, but at present their position in a botanical sense is not quite certain. Balbiani even considers the parasites producing Pehrine as animals belonging to a group called Sporozoa. In fact it is by no meaus quite certain that all the fungi mentioned thus far really belong to different species and genera; some naturalists claim them to eyclus of growth.

These fungi are distinguished by an elongated spadix-shaped fruit-hearer, in which Asci or spores are formed in peculiar little bottle-like cavities. But besides the spores formed upon such fruit-bearers others can be formed directly upon the surface of the mycelium, or by special hyphre.

The best studied species in this order of fungi is Cordyceps militaris Fries. (Torrubia militaris, in honor of a Spanish monk who first discovered such peculiar parisitic growths upon some wasps in the West Indies. ) A good description by Prof. C. V. Riley, with illustrations, can be found in the "American Entomologist," Vol. III. The larvæ of our May-beetles, well known by the popular name of White Grubs, are quite often attacked by this fungus, and when found always attract the attention of the curious. The inflorescence generally presents the appearance of a pair of elongate horns, one issuing from each side of the head. These two horns-sometimes there are four-are usually of different lengths, and grow to the length of three to fiive inches. Other larvæ are also affected in a similar manner, for instance, those of our Stag-beetles, of the Seventeen-years Cicada, and others.

A peculier form, but belonging to the cyclus, of growth of the Cordyceps, is found npon various caterpillars and prepæ; it is Isaria farinosa Fries. This fungus is quite common, and as seen in this figure, is distinguished by its peculiar and numerous stromata or fruit-bearers.

Bolrylis Bassiana Balsamo is another fungus that belongs to this order. It produced at one time the well known disease of the silkworm, usually called the Muscardine, but is now rarely met with, appearing only in very wet seasons. As soon as one of the spores of this fungus lodges upon the skin of a caterpillar, it commences to germinate, and penetrates through the skin, and once inside, ramifies in all directions. The point of entrance is usually indicated by a discolored spot. The affected caterpillars usually die in the course of twelve to fourteen days, looking soft and shrunken. Soon after, however, the corpse commences to swell up again, owing to the increasing pressure of the growing mycelium from within, until the extended skin is ruptured; in dry weather the caterpillar shrinks up into a mummy.

These fungi, which produce epidemic diseases only among insects, belong to the group of Phycomycetes, whose systematic position is not quite certain. It is a small family, only parasitic upon insects, and contains the two genera Entomophthora and Empusa, which are mainly distinguished by the former having branching mycelial threads, while in the latter they are formed by one-celled threads.

The most thoroughly studied species in Europe is Entemophthora radicans Bref., which produces quite frequently an epidemic disease npon the larvæ of the cabbage but, terfly. It occurs in this country as well. The usually lively caterpillars of this noxi.

infection; they become quiet, slow in their spore is lodged upon some unsuitable submotions, die suddenly, aud are soon entirely enshrouded by a greenish white fungus, the infloresence of which lasts but a few bours, leaving nothing of the caterpillar as a brown shrunken skin, surrounded by large massea of white spores. The fungus does not increase in the body of its host by self-division (like yeast plants), but forms a manybe simply members of one and the same jointed mycelium, which eventually fills the whole interior of the affected caterpillar. According to quite recent investigations this fungus forms also resting spores, which are said to be produced by the copulation of two mycelial branches Another species is Entomophthora nulicæ Reichard, which in Europe has been quite often of mant for three and more years before they great service in checking the devastating armies of certain caterpillars.

> One of the most frequently observed diseases produced by fungi is the "Fly Cholera," produced by Empusa muscæ, Cohn. This disease can here be observed every year, from the middle of September to the beginning of winter, but in more southern regions it is found throughout the year. The first stages of it are indicated by the restlessness of the attacked flies; they soon, however, become week and slow in their motions. Having securely fastened themselves with their broad tongues to the object upon which they happened to be when attacked by the last stages of the disease, a succession of spasmotic tremors pass through their wings and legs, and the tormentor and destroyer of our slumber is no more. The abdomen of the victim of this disease, previously already swollen, becomes more and more distended, and a fatty, whitish substance pushes through the softer membranes between the rings or segments. Soon after a whitish halo of spores is formed around the dead body, readily seen if the fly happens to have fastened to the glass of window or mirror. These spores gradually cover the whole insect with a white dust, and they appear in ever increasing numbers as the body of the victim dries up, until at last its whole interior is empty and only a shell remains. In the earlier stages of the disease, and before it can be recognized by any outward signs, its presence can be detected by the milky condition of the blood, produced by very numerons, roundish and floating cells of fungi. These cells grow into elongated, contorted and cylindrical bodies always composed of a single cell, which, after the death of the victim, push their cone-shaped heads through the thin skin between the chitinous abdominal rings, and produce outside the fatty, white dust already mentioned. At all the exposed ends of these elongated cells appear in due time globular spore, which gradually assume the form of bells; they are, by constriction, at last separated and thrown foreibly into space, from the halo surrounding the dead insect. Each of the ejected spores is surrounded by a small mass of protoplasm torn away from the cell; this latter collapses after having ejected a spore, and a new one is gradually formed in its place, also to be ejected in due time. If such an ejected spore lodges upon a healthy fly, it is held in place by the sticky protoplasm, and if it should have been glaed upon a soft part of the insect, for in stance upon the underside of its abdomen. it will commence at once to grow and penetrates through the skin of its new victim. Once inside the spore rapidly increases by self-division in the manner of yeast-cells, and soon afterwards produces again sick-

stauce, it is able, ou account of the drops of protoplasm surrounding it, to produce upon its end a secondary spore, which is again forcibly thrown into space. Such secondary spores are very apt to come in contact with the nuderside of flies running over them. Diseased flies, dying in wet places, produce no bell-shaped spores, but simply globular, colorless and thick-akinned ones, rich in fat, which are the resting or dormant spores. Such resting or dormant spores are not easily destroyed by unfavorable conditions, and can bridge over from one season to another, and some resting-spores have been known to be dorstarted a new cyclus of growth. Such spores, at least those of the Empusa, are produced without copulation; there are, however, some species of Entomophthora, whose resting-spores are produced by copn-

THE CHINCH-DUO AND ITS DISEASE During the last three years Chinch-bugs have occasioned immense damages to the various creals in thia State, but chiefly so in the more southern countries. They have been steadily on the increase and were rapidly spreading in a northerly and westerly direction. This increase was entirely due to the very favorably atmospheric conditions prevailing throughout the summers of 1885, 1886, and 1887, which were very dry and warm, and just suitable to these bugs, which are essentially dry and warm, insects. Owing to a wet, cold, and very hackward spring in 1888 they were not in a very healthy condition when warm weather commenced, and large numbers were killed in their wintering quarters. Here at the Experiment Station all the Chinch-bugs hibernating in the fields, where they had been exceedingly numerous and injurous in 1887, were found upon close examination to be dead. Their bodies could be found in all suitable wintering quarters, and frequently hundreds were huddled together. But upon the slopes of the hills, covered with oaks, bounding and protecting the beautiful station on the north, the conditions were quite different, and in favor of the Chinchbugs. The copious rains of the spring could not lodge there for any length of time, and the sun would soon dry the drenched bugs on these sunny hillsides. Consequently large numbers wintered their in safety, and formed a center of distribution for our experimental plots. A 40-acre field of oats. in very close proximity to these hills, formed the nearest point of attack for the hungry bugs, and as soon as warm weather com\_ menced they migrated to this land of plenty. They invaded, however, only the outer edge of this field, and lodged upon the still quite amall plants, which soon paled under this infliction. Prof. Porter and myself had just concluded to give our enemy a warm reception, even upon a field not belonging to the station, as a sudden change in the weather kindly assisted us, and removed the threatening danger by means of three very cold and wet days. After this no bugs could be found in this field, and all danger was thought to be over. Real warm weather now became the rule, and the sluinbering vegetation, as by magic, became a blooming reality; so became the Chinchbugs! The gentle southern wind was loaded with them, and they landed in immense numbers, everywhere, to begin their destructive work in our fields. The warm weather continued, and the first generation ous butterfly soon show the effects of an ness and death. It, however, the ejected of Chinch-bugs became quite numerous and

destructive, and the second brood three ened a repetition of last year's disast Oats, rye, and some grass were utterly stroyed by them, and the young and pro ising corn formed now a standing invitat to the hungry hardes. To prevent th inroads, all the infested fields and expe mental plots were aurrounded by a board fence, six inches high, and sun fitting to the ground so as to prevent insects from crossing under this feuce. upper edge of the boards were painted fr time to time with tar, which prevented bugs from crossing. The insects were this time of all sizes and ages; adults of first brood, eggs, young hatched bugs, a pupm of the second broad were all min together, and all were decidely haugry, their intense activity and the swarm armies of famishing bugs plainly indicate To gather in this crop of hugs, round hol about six inches in diameter, were drill in the ground close to the fence, and as o hole became filled with insects, it w closed and another one was opene close by for the reception of more victin So matters worked to our satisfaction, wh an unexpected assistant came to help t making the structure of more fences u necessary.

The above mentioned holes were qui deep, and consequently were always wet, condition of thiogs not at all suitable starving to Chinch-bugs, and they soon h came unhealthy and weak, thus presenting the best conditions for any disease to clai them as its victims. And such a diseas produced by a fungus, was not slow : making its appearance, as could be seen b the numerous dead bugs. The margins all the holes, but chiefly those more dense crowded with captives, soon became whi ened with head bugs enshrouded in whi mycelial threads and dust-like spores, i fact in a few days the upper rims of thes holes looked as if recently white-washed Nor did the disease stop there! On the cor tray it spread very rapidly to adjoining fields of timothy, Hangarian grass, millet etc. Even the course followed by it from the holes could be readily recognized fo some time by the more or less numerou white spots left in its wake. The fields in vaded by the disease afforded, upon close examination, a trnly edifying spectacle to those not interested in the welfare of the Chinch-bugs. They looked quite panic stricken, and moved about in a slow and dazed way, fignratively speaking, as i badly scared. And well they might be! The victims of the disease could be seen every. where by the thousands; they had been slaughtered in all kinds of positions, but they were usually fastened to the blades and stems of the grass, or to the leaves of young clover. All showed plainly that their last and strong determination in life had been to hold on as long as possible; their legs were firmly planted upon the substance where the bug happened to be; others had only their beaks inserted, and were dangling by it free in the air. But all showed the characteristic white mycelium threads and sporea of the disease. Although almost exclusively attacking Chinch-hugs, the disease was not very slow in also slaughtering such small flies, as found the society of such malodorons companions to their taste. A story with a moral! Not having had access to Prof. S. A. Forbes articles on the disease of the Chioch-bug, I am unable to to say whether Micrococcus insectorum Burrill has anything in common with the friendly fungus causing all this slaughter, but I hardly think so, as the

disease observed here has no similarity to the flaccidity of caterpillars, but appears to belong to a true species of Entomophthora. Those interested in contagious diseases of insects should read his excellent paper published as Article IV of the Bulletin of the Illinois State Natural History, Vol. II,

Most, if not all, the Chiuch-bugs would have been killed at the Experiment Station, if the suitable conditions for this disease had lasted a few days longer. But the wet spell prevailing part of the time, the disease was playing auch havor amongst the bugs soon passed and was followed by warm and very dry days, which soon stopped any further incr ase and apread of the disease. But by artificially producing such conditions the disease was kept at work for some time, but only on a very limited scale. Nor could it be spread, because in nature such artaicial conditions could neither be produced nor maintained on any extensive scale.

As many parts of the southern portion of this State were overrun with Chinch bugs. I thought that a good opportunity and as inviting field was presented to purposely apread a disease-an act not usually considered a very kind one to engage in, and one not to be recommended to physicians. This was exceedingly simple, as all that was necessary was to gather a number of the diseased bugs, put them into tightfitting tin boxes, and mail them to regions infested by Chinch-hugs. Arrived at their destination, the contents of the boxes could simply be thrown in any field known to be infested with such bugs. This was done with specimens of the diseased bugs collected at the Exp riment Station, and eighteen different places in southern Minnesota were thus made centers of distribution for this disease. And as it seems with remarkable good results, as the disease has killed off the bugs to such an extent, that careful search in a majority of places failed to produce a single living specimen, whilst the traces of the disease was found every-

The disease spread so rapidly, that even corn growing near wheat fields crowded with Chinch-bugs were entirely protected. and no bugs had entered them in all the places visited by myself. But I am by no means satisfied, that the disease was really introduced in this manner. Is it possible that the disease was there already, unknown to any one, and that I simply re-introduced its germs? The reason for this belief is based upon the fact, that too large an area was infested by the disease, to large to be readily accounted for by the short time in which the atmosphere conditions were- apparently-in its favor. But this may be as it is; one thing is certain, viz: the disease has been there, and consequently the spores of the fungus producing it are there also, and remain there, to act whenever the conditions are favorable, and I firmly believe that our farmers need not entertain any fears of Chinch-bugs for the near future.

For lack of space the continuation of the article on the "Rocky Mountain Locust in Otter Tail County," as well as an article on the army worm, has been omitted. They will be publised in the next bulletin.

The largest known flower is the rafflasia, an extraordinary parasite of the forest trees of Sumatra, which measures three feet in diameter, weighs fifteen pounds and has a callyx holding six quarts. The plant consists only of the flower, growing directly on the stem or body of the trees.

## THE FORESTS OF THE UNITED STATES.

The Philadelphia Times summarizes the annual report of the Division of Forestry of the United States Dapartment of Agriculture, which estimates the forest lands in the States and Territories as follows:

	STATES.	ACRES.
	Maine	12,00,0000
	New Hampshire	3.000.000
	Massachusetts	1.889.500
	Rhode Island	163.52%
	Connecticut	65 00
	Vermont	1.990 000
	New York	
	New Jersey	9.830 600
	Pennsylvania	10003 (006)
	Deleware	300,000
Į	Maryland	O BUND INDU
	Vincinia	1:2 ()()() ()()
	Virginia North Carolna	to man m o
	South Carolna	19 0000,000
	Georgia	12 000 100
	Florida	BOSHERSON IS
	Alabama	17.00-000
	Massissippi	17,00,000
	at ississoppi	13,000,000
	Louisiana	13,000,000
	Техан	4 CHINA CHINA
	Wi higan	14,000,000
Į	Wisconsin	1,,000,000
	Minnesota	30,000, 01
ł	thio	1,255,767
	Indiana	4,300,6 6
	lilinois	, 3,500,000
	West Ving nia	. 14,000,000
	Kentucky	12,000,000
	Cennes-ce	16,000,000
	trkansut	28,000,000
l	I)wa	2,300,000
H	Jakota	.,3,000,000
	Nebraska	. 1,550,000
	4 MM49	.,3 500,000
	Syoming	7,800,000
	storado	,10,630,000
	New Mexico.	8,000,000
	ilaho	10,234,000
	Verada	,,2,000,000
	tah	4,060,000
	Washington Territory	10,000,060
	Washington Territory	20,000,000
	Oregon.	20,000,000
	California.	20,000,000

A study of these figures shows that the South is much richer in foreststhan any other portion of the country. Separating the States into groups, the six New England States are credited with a forest aera of 10,-193,028 acres, the four Middle States with 17,630,000, the fourteen Southern States (including Maryland and leaving out Missouri) with 232,800,000, the nine Western States with 50,358,767, the four Pacific States with 52,630,000, and the seven Territoriea with 63,034,000. It will thus be seen that of the entire 465,645,795 acres of forest included in this estimate the fourteen Southern States possess fully one-half.

These atatistics show that while the process of deundation has been carried to an unhealthy extreme in the Eastern, Middle and a few of the Western States, the forest area still remaining in this country is a magnificent one. If the estimates of the department are approximately corrrect, the timber lands of the country, exclusive of Alaska, cover an era equal to fifteen States the size of Pennsylvania. If proper measures are taken to prevent the rapid and unnecessary destruction of what is left of our forest domain, it should be equal to all requirements for an idefinite period. It is not yet a case of locking the stable after the horse is stolen, and should never be allowed to become so. With the adoption of a policy of judicious tree planting in the Pacific States and a system of State or Government reservations in the monntainous districts, which are the sources of the chief rivers of the country, the evil effects which have followed forest denudation in Europe and some portions of Asia would never exist here .- Bradstreet's.

MUCH of the so-called ivory now in use is simple potato. A good, sound potato wash, ed in diluted sulphuric acid, then boiled in the same solution, and then slowly dried, is all ready to be turned into buttons, poker chips and innumerable other things that ivory was used for once upon a time.

#### ALLEGED ADULTERATION.

Mr. F. W. Coseus, writing on this subject in Bonfort's Circular, says: "An unusual amount of exaggeration-to put it mildly-has been current lately with reference to what is sensationally termed 'the adulteration of sherry.' Now, what are the facts? The yield of the last vintage in Spain is stated to have totalled 616,291,-900 gallons of wine-good, bad and indifferent. Of this 152,123,700 have been exported, the balance being either consumed in the country, stored for future use or distilled into apirit. Jerez and its surroundings yielded, roughly, 5,2 0,000 gallons, the sherry district prop r contributing about one-third-say, 2,700,000. Cadiz is the seaboard terminus of the Madrid railway, which passes through Seville, Cordova and La Mancha, all producing large quantities of white wines-ty some called sherrythe resemblance, however, being confined mainly to the color of the fluid, and not its flavor. The importation of German alcohol into Cadiz last year is estimated at about one million of gallons no figures of the quantity unsold seem available); and, as it is carried into the interior, and even to Madrid, and utilized in the manufacture of aniseed brandy - very largely consumed throughout Spain-it also has the reputation of entering very largely into the 'Cognac' of the Spanish capital. Bearing in mind that La Mancha and the south of Spain produce some two hundred millions of gallons of grape jnice annually, spread over such a surface the one million of German spirit represent about half a gallon per cent, supposing-which is not the case -that all of it is used for strengthening weak white wines consumed in the country. One of the leading sherry shippers of Jerez stated, in a circular issued to the trade a few months since, that he never used German spirit in his Bodega, and there is no reason to believe that his numerous competitors do so to deteriorate their sherry, as the addition of German spirit manifestly cannot improve it. Since the railway system has been introduced into Spain, the home consumption of aberry wine has largely increased, and this development has had a marked effect for good on the merchandize traffic of the Cadiz and Madrid line. As a protection to the con sumer, the Spanish Government has somewhat tardily introduced an Adulteration Act-far-reaching and effective if carried into practice, but which is a dead letter so far as the sherry shipper is concerned, as he is not in the habit of spoiling his sherry by adulteration to produce an inferior article; and, as no means, so far as I know, have been discovered by which bad wine can be made good, it is not likely to be a profitable experiment to make good sherry into bad sherry. Many are interested in discrediting sherry, but the consumption in the United Kingdom still totals a considerable percentage of the wine imports. the medium classes the sale is probably as large as ever, but common sorts, as well as the very old and costly descriptions, do not find as ready a sale as formerly. The average quality now shipped from Jerez under accredited brands was never better than at present, or invoiced at more moderate rates. If this course be persistently pursued, sherry will yet live down all the calumny heaped upon it by ignorant and interested detractors."

Subscribe for the MERCHANT,

#### A TEN DOLLAR EVAPORATOR

A correspondent of Green's Fruit Grower, says: At a small expense I made a dryer which has done good work, as the samples of evaporated fruit I have here on exhibition will testify, said Mr. Arnold in the Michigan horticultural report. I laid up a brick work of three sides, about thirty inches square and three feet high, inside of which I placed an old box stove, of large size, and on top of the brick work I set s box 27x28 inches inside, and about five feet high above the brick work, with a door in front, which, when open, would admit ten sliding trava twenty-seven inches aquare. These trays are made of light bass wood frames and mosquito netting tacked on the under side of the frame, although they could be used either side up. The netting required replacing once during the season, and is now about used up. I would use galvanized wire trays only.

In the evening my son or hired man would pare about a bushel of apples in an honr; one other person and myself would trim the ends, cut the apples half in two, and our two little girls, aged 7 and 9 years, would spread the fruit on the trays, and I would slide them into the dryer. In this way we usually filled the dryer in sixty or seventy minutes. We endeavored to have the temperature 150 degrees, and about 120 after the fruit was partly dried. We had a ventilator, 6x27 inches, near the top, which could be opened or closed as desired, but should always be kept open while in use.

At bedtime we filled the stove with large wood, closed it tight, and in warm, dry weather our apples would be nicely evaporated in the morning. Out of this little cheap dryer we have taken seven barrels of nice evaporated apples well dressed down, over two barrels of peaches, besides currants, etc. I should have said that this dryer being one inch longer from front to back than the trays, admitted of a space of one inch at the back of the first tray, and also at the front of the second, and so on alternately. I have found this better than a half inch space in front and back of each tray.

#### CALIFORNIA BEATS THE WORLD,

The growth of grape growing in California beats the world. The President of the California State Board of Viticultural Commissioners estimates that there are now 150,000 acres planted to vines in California, valued at \$45,000,000, with improvements necessary to carry on the business of the value of \$20,000,000, making a total of \$65,000,000 invested in viticulture. Previous to the creation of the State Board of Viticulture the total capital invested in the industry amounted to but \$14,000,000. This shows an increase of \$50,000,000 during the last eight years

This grape acreage is rated at \$300 per sore, which does got seem by any means arrover-valuation, and if we estimate the grape acreage of Lake Keuka at 10,000 young and old, and value it at \$300 per acre, the amount is shown to be \$3,000,000 or \$41,000,000 less than the grape land valuation of California; and yet we pride ourselves in this Keuka, Seneca and Cauandaigua region, on being well up in the world on grape growing. But when we compare figures with California, it tends to make us feel that ours is comparatively a small interest, and inspires homility instead of undue arrogance and exaltation.

#### A TEMPERANCE CRUSADE.

#### A Plan Proposed to Spread the Gospel of the Vine.

J. H. Wheeler, Esq., Chief Executive Officer Vilicullural Commission of California

DEAR SIB: - I have just read the enclosed article, which I clipped from the N. Y. of the 4th inst .. - President Wetmore of the California State Board of Viticulture says that the great obstacle to the sale of California wines in the Eastern States is the high price demanded by the "California wine," he retail dealers. says. "sold by the barrel in New York is cheaper than milk. Yet the dealers demand a profit of from 100 to 500 per cent. on every gallon. It is this barrier we shall endeavor to break down. Instead of our wine remaining a table luxury, we shall make it as cheap or cheaper than tea or coffee. It is the duty of every hotel keeper to furnish wine without extra charge to his gnests, as he does the latter beverages. He could do it just as cheaply, and it is just as wholesome. In the end he would make a greater profit."

It vividly, revives my contemplations on the same subject some time ago, which I placed in crude form on paper, expecting then to go to California, and have the pleas. ure of presenting to your honorable Board, my ideas, of how could be created a securely profitable commercial outlet for the gigantic wine production of your State. Our Country, is assuredly large enough field, for the consumption of all the wines, California can ever produce, and, at good profitable prices. The graud idea, it seems to me, is how to make the demand for them. -i, e., to popularize them-to the exclusion of the prevailing call for foreign wines, strong liquors, and beer. Surely, in the struggle to accomplish this object, incomparable advantages are in favor of onr Native Wines-in their purity, flavor, nntrition and wholesomeness.

My plan involves the creation of that popular demand by placing the wines, even to the smallest quantity, within easy purchasable accessibility of everybody, everywhere in the city, towns and villages, throughout our country, and in economy of cost, if possible, almost as cheap as lager beer. My financial misfortunes, have precluded the carrying out of my design of reaching California, in person, so, F respectfully enclose the Ms., of my plan referred to, hoping, sir, you may find some good in it.

Prior to the last 3 years, I have traveled extensively throughout our country, east of the Mississippi, and in Europe. would be right glad, sir, could you find, for me, something to do, in the line of promoting the demand for the California Wines, in the Middle and Southern States.

I feel confident of the ability of rapidly working up to a good organized starting point the branch companies referred to after the establishment of the parent company there in California. By securing the interest of locally responsible business and professional men of influence in these branch companies, respectively, and it could be readily done, for the object is good to their communities, and without risks, it would give them (the Companies) solidity, commend the wines locally, and not materially extend the liability of the Parent Com-

I would cheerfully undertake the business at whatever pay you might think best, and,

pany-my current necessary expenses, to be allowed in money.

It is kaowa by reliable authority, in 1882 California produced 12,000,000 gallons of wine, the pure juice of the grape, viz., Claret, Port, Sherry, Hock, Angelica, Muscat, etc. These sold wholesale at 50 cents a gallon.

The annual increase on this wine production was expected to become so immense. that it gave rise among the producers, to the important question: Where and how is it all to find a market profitable to them, or, that will even psy for production?

The following is a plan to vastly augment the sale and consumption, now and prospectively, throughout the United States of all the California Wines, viz:

- 1. By the organization of a stock corporation at San Francisco, to contract, at the minimum market rates, with all the leading wine-producing grape-growers of the State, for their saleable stocks of wines, annually. This company to hold these wides for sale only to its branch companies.
- 2. Then the organization, through this San Francisco Parent Company of branch stock companies, to be located in the leading cities of the naion, as exclusive distribative wholesalers of said California wines, purchased only of said San Francisco Parent Co, -and to be sold at their lowest contingent prices, to families, hotels, restaurants, retailing beer and other saloons and consumers generally.

A statement and exhibit showing the great inducements offered to capitalists to invest in the stock of this San Francisco Parent Wine Company.

Also, the substantial inducements offered capitalists, throughout the country to invest in the stocks of its branch companies located in the leading cities of the United States, and, an explanation of this original plan to be adopted by said branch companies, to create and rapidly increase the demand, among the consumers of stimulants, all over our vast country, for these companies' California Wines.

The San Francisco Parent Wine Company's branch companies, are to be located in the large metropolitan cities, viz: New York City, Boston, Philadelphia, Baltimore, Buffalo, Pittsburg, Cleveland, Detroit, Chicago, St. Paul, Burlington, Quincy, Kansas City, St. Louis, Cincinnati, Nashville, Galveston, New Orleans, Mobile and Savannah.-20 cilies.

#### THESE BRANCH WINE COMPANIES,

The plan for their mode of business, inducements for trade, and meaus to be adopted to create increased demand for their California wines.

The Parent Company at San Francisco, supply them their wines, at, say 10 cents. added to their cost there of 50 cents per gallon making 60 cents. (This is premising the cost per gallon at that in the California sales of 1882.) Then add cost of transportation, from San Francisco to destigation, say per gallog 10 ceats. Then add the branch-companies allowed profit of say, per gallon 30 cents. Thus, the branch companies selling price for their wines, per gallon is \$1.00 (When sold in wooded packages, kegs and bbls., their cost might be added to this.) When sold in bottles. (quarts) by the dozen in a case at 50 cents per bottle making per gallon \$2.00. A gallon of wine holds 60 average sized sherry wine glasses full, which at 5 cents per glass would give, \$3.00. Thus the retailer, selling

per gailon, this about equals the profit investors. made on beer, sold by the glass in saloons.

Why, then, could not these branch wine companies adopt the beer brewer's plan in all our larger cities? They establish little beer saloons in almost all the thoroughfare streets, requiring their managers or conductors to give nominal security for the little property and stock advanced them to start with. These branch Califoroia wine, companies could do likewise, by establishing little California wine saloons (or cellars, as they are called in Europe,) as numerously in their respective districts, where said wine, drawn from the wood, could be sold by the wineglass for 5 cents; hy the pint 25 cents; by the quart for 50 cents, or by the quart bottle for-say, 60 cents. (1.) Now, it is asked here, Would not this practical mode of bringing our fine native California wines before all the American people, rapidly increase their consumption, and consequently, soon establish au immense and permanent demand for them, taking the place of the present and longcontinued great demsad for much inferior, imported foreign wines? I say, It would, and should

Should it be found advisable these branch companies could legitimately extend still another powerful inducement to the purchasing of their California wines, and thereby very rapidly establish a great, universal and permanent demand for them as desired.

This would be, by said branch wive companies, severally, offering a premium of two shares of their stock to each purchaser of one hundred dollars' worth of their wines, but this premium to stop on the iudividuals' purchases reaching to one thousand dollars. This, it will be seen, makes that purchaser interested in that branch company to the extent of twenty shares of its stock, and has undoubtedly, by that time, established his and his friends' tastes for our native California wines, by thus becoming well acquainted with them. This is all-important to the end in view.

Now, I respectfully submit the following proposition and plan for the formation of the Stock Company at San Francisco. Its exclusive business object is to be-to deal in, by purchase and marketing, the already vast and great annually increasing grape products of that State. In all her varied kinds of good wines that are recognized as equal to the best in the world, and only require to be properly advanced before the people to be properly appreciated. They then would become the popular and healthy beverage for all, and, thereby, profitably marketed. In thus creating a demand for these wines throughout our country, it could be supplied by the means of these local Branch Companies referred to. They to be subordinate and mainly governed by the San Francisco Parent Co. These Branch Wine Companies-say, twenty in number-to be located in the larger cities of the United States, and so distributed as to allow each, as near as can be, an equally separate commercial territory. (2):

First-For consideration of the grapegrowing wine makers of California, to enable them to always find a ready and profitable home market for their wines.

Second-For consideration of the California capitalists, as well as for those of other States, in making the wine business a specialty by stock companies handling said wines, gigantic as it would be, extending take that in the stock of the parent com- it at 5 cents a wine glass makes a profit per over our whole country, and with such as- supply to its Board of Managers a semi

gallon of \$2.00, or a 200 per cent. profit sured profitable returns as to readily secure

And at the same time, and worthy of further consideration, that by the consummation of this business, in making easily accessible to the whole people throughout the States, good wines made of the pure juice of the grape at the lowest possible minimum price, it would become the very greatest auxiliary to the good cause of temperance it could possibly have.

#### THE PARENT STOCK COMPANY.

The organization of a Corporation, capitslized at, say, \$1,000,000, represented by one hundred thousand shares of \$10 each. Object: To especially contract with the wine-making grape-growers of said State, for all the varieties of their hest wines, etc., viz: port, sherry, claret, bock, angelica, sweet muscat, etc., at their minimum market prices. The stock of these wines to be held for wholesaling only to this Parent Company's Branch Companies, located throughout the United States, and to be sold to them at prices toat will be an increase on their cost of say, 10 cents per gallon, delivered there, at the Company's wine ware-house in Sau Francisco.

Branch companies as the distributive agencies to be located in the leading cities of the United States. These Stock Companies to be organized by the consent, direction, and semi-control of the head, or Parent Company, at San Francisco. They are respectively to be capitalized, say, at from \$300,-000 to \$500,000, according to expected prospective business. This Capital Stock also represented by shares of \$10 each. Object : They are to confine their business transactions to dealing solely in the product of the California grape, wines, etc., which they are to purchase exclusively of the San Francisco Parent Company. They are not to be retailers, but are to sell these wines by packages only, viz: barrels, kegs, and bottles in cases; and to families, hotels, and retailers in their respective districts; and at prices not to average over 30 cents profit per gallon on its total cost, including its transportation, etc.

In consideration of the San Francisco Parent Company extending to them all these business facilities and special privileges, which it is to grant them, and to no others in competition in their separate districts-which favors will be such as organizing and starting said Branch Wine Companies, by stocking and supplying them, at San Francisco, with said Parent Company's California wines, etc. at the increased price of only 10 cents per gallon on their original cost to said Parent Company in California, in consideration for all such said Branch Companies are to grant one-half of their Capital Stock respectively, and non-assessable, to said San Francisco Parent Company.

And these shares, of said Branch Companies, are to be distributed pro rata among the stock-holders of said San Francisco Parent Company, who are to receive, as owners thereof, the dividends thereon,

The San Francisco Parent Company and all its Branch Companies are to give every proper guarantee that no deleterious substance, or anything, shall be mixed in their wines while in their possession, when undergoing changes in packages. Nor shall any of said Companies continue to longer supply or sell to such of their purchasers, (retailers) when such doings are discovered.

The San Francisco Parent Company is to

annual account-current balance sheet of its business, and are to declare dividends, payable semi-annually. And all its Branch Companies, scattered over the United Statea, are to do likewise, to each of their Board of Directors, and to the Parent Company, but they are to be quarterly reports, and they are to settle with the San Francisco Parent Company every three months.

In answer to the probable question Why and how would an organization or organizations like these, and the carrying out of such an enterprise, in any way assist the good cause of temperance throughout the country? I answer: Because, in pure wine there is much nourishment, while in ordent spirits, there is none. In good wines, the pure juice of the grape, its abundant noorishing qualities forbids its general excessive use, by its effect on the stomach the want of the same qualities in spirits does not, but on the contrary rather induces its excessive use, and inevitably so, wh n relishing food is not easily attainable to satis ly the spirit-producing sonrness in the stomach This accounts for the remarkable rarity of drunkenness to be found in the great wine districts of Europe.

Now, as the human race have used stimplants immemorially, and will, in all probability, continue to-especially in this fastcompeting, drive-ahead age-and by which use, with care, it is often made r quisite to mental and bodily health-total abstinence societies to the contrary notwithstandingtherefore would not this proposed organization and enterprise, in the grand facilities it would create, in enabling the whole people to easily find-as they do lager-beer now-almost everywhere, good wine, the pure juice of the grape, at remarkably low prices, within the reach of even those of Would not the fulmost limited means. fillment of all this, verily, assist greatly the pre-eminently good cause of Temperance?

And, then, would not the consumption of our good native wines increase? And, in that proportion, would not the same of ardent spirits decrease? Inevitably. Because good, pure wine, the juice of the grape, is Nature's beverage and stimulant; it is pelatable, and pleasing to the taste, whereas, ardent spirits are not, but, on the contrary, at first, are noxious to the taste, and entirely acquired. I do believe that this enterprise would have, not only the hearty approval, but the combined influence and support of the whole gigantic temperance movement throughout the United States.

Truly it would, at any rate, be a move in the right direction, for if the habit of drinking spirits, or strong liquor, cannot be stopped, then what is the next best possible to be done? Why, check it; temper it by any good means, and lessen drinkenness, And that does seem an easy possibility by this mode—in the substitution of pure wines, convenient in reach, and less in cost than ardent spirits are now in every city, town, and village.

Hoping your honorable board may find some merit in my plan, and that I may have the pleasure of hearing from you on the subject, at an early date, I have the honor, to be

Most respectfully,
Your obedient servant,
J. S. Post,
Stanford, Connecticut, Oct. 5, 1888.

THE Westinghouse Electric Company has recently perfected on incondescent lamp which is expected to burn from 2,000,000 to 3,000,000 hours without discoloration.

# FRENCH COMMENTS ON OUR GRAPE INTERESTS.

A translation of an interesting article in Le Figuro, of September 29th, entitled Vineyards of California, taken from the Rural Press, is as follows:

Towards the end of the last century the Spanish missionaries tried to cultivate the grape in the country north of Mexico, which now belongs to the United States. This attempt succeeded marvelously upon the slopes of the Sierra Nevada, which are near to the sea. It is not known precisely what kind of vine the padres had brought from Europe. The researches made by American botanists to discover among the plants cultivated in the Old World the variety from which the vineyards of California sprang, have not developed ony results. Has the climate exercised its influence or did the missionaries receive from Spain the seed derived from an indefinite number of diff rent kinds, and have they proceeded by allowing the seed to grow intermixed in order to sava the expense of a plantation conducted in accordance with the rules of the art? This conjectura is probable enough, and it would explain how they have been able to produce a cross so multiplied that eventually there resulted a type almost uniform. Whatever may be its origin, this type exists, and it produces wine of a very bad quality.

Nearly all the vineyards bordering that Pacific were planted from the Mission grape. It is only within the last few years that the State of California has attempted to acclimate varieties coming directly from Europe. Private parties have taken advantage of the public supplies, and to-day there is no plant of the scarcest variety that cannot be found in the vineyards recently laid out in the vicinity of San Francisco. In truth, the prices have advanced so much, that a certain number of vineyardists are frightened by the expense and still have recourse to the Mission grape, which has the incontestable advantage of being acclimated for over a century, and of being sold very cheap.

Moreover, the operators who are willing to employ only European plants, do not appear to have found a return for this enormous increase of expenses. They have sold the products of their vineyards at a little higher price, but have not succeeded in creating a grand California production, so classed upon the markets of the United States. The merchants of San Francisco have not given up their old habits; they buy as in the past, the crop of the locality, and then they mix the whole to produce a French wine, as the multicolored vignette asted on the bottle attests.

One day, e proprietor in the vicinity of Santa Cruz was in the largest hotel in one of the large towns on the Pacific Coast. On sitting down at the table, he called for a bottle of California wine. The landlord, bridling up, said to him that he kept only French wines, and served him with a bottle of Chateau Latour. Such, at least, was the name written on the label, the paste of which had not had time to dry. The landlords of the New World have always at hand a collection of viguettes, which they stick on at the proper moment, in order never to be taken unawares by the notious of their customers. The sincerity of the cork left nothing more to be desired-it carried the full name of HENNESSY, and had evidently crossed the Atlantic in the neck of a bottle of Cognac,

of Santa Cruz are sold under the label of Chatean Lafitte or Chateau Latour. When they are neerly pure, and when they are offered to the public under their proper name, they are replaced by on artificial mixture in which the tincture of aniline predominates. However, the viticulturists of the New World do not remain discouraged by this double concurrence. wonderful fertility of the soil enables them to maintain the struggle on the slopes of the hills which surround the Bay of Monterey, and which are sufficiently elevated to be protected against late frosts. Each vine at least bears sixty pounds of grapes-an equal result is not surpassed in any other place in the world. Let us add that these crops, whose prodigious abundance excites the astonishment and cavy of European winegrowers, are sold in general at prices suffi. ciently remunerative. According to the author of an article published in the Nine teenth Century, the crops of good quality are worth about fifty francs the hectolitreforty-one cents per gallon.

A future of prosperity almost illimitable is open to all that portion of the American continent where the nature of the soil, the altitude, and the climate are essentially favorable to the culture of the vine. An excess of production; is not to be feared. They do not gather in California over 20,-000,000 gallons-that is to say, 900,000 hectolitres. This figure seems very insignificant when we consider that France alone before the ravages of the phylloxera, produced each year nearly 70,000,000 hectolitres, or 1,540,000,000 gallons; and that Spain, where viticulture has only received serious development at a quite recent date, following the very curious statistics lately published by La Revista de Espana, has seen its exportations raised from 840,137 hectolitres-18,483,000 gallons-in 1850 to 7,391,978 hectolitres-162,623,000 gallons -in 1866.

Why is California so slow to cover her soil with vineyards? The soil is fertile, the climate admirable, the returns are of an abundance unknown in the Old World, and the tariff on wine, which is nearly equal to an absolute prohibition, protects the products of the soil against foreign importations. What obstacles prevent, then, the wine-growers on the Pacific Coast from possessing themselves of the markets of the United States?

It is much less in the frauds practiced by the merchants of San Francisco than in the inexperience of the first wine-growers that one must look for the principal cause of the mistakes inflicted on American viticutture. The proprietors of California vineyards hava lacked intelligent workmanship. Frenchmen do not emigrate. Spaniards and Italians, obliged by famine to leave their countries, establish themselves in South America. The current which flows toward California comes from the north of Europe. Some English, Irish and Germans have located themselves on the Pacific Slope, and Yenkee speculators have supplied the funds necessary to plant vine-

No one can be ignorant of the fact that viticulture is the most ardnous, the most complicated, the most learned, of all forms of gardening. To know how to prune to a nicety at the opportune moment and to the length requisite, lessons of experience and practice are not alone sufficient; one must be possess the instinct of art. One may be-

Thus, then, the products of the vineyards come a gardner, but must be born a vine Santa Cruz are sold under the label of yardist.

One can explain without difficulty the obstacles which the propri fors have met. Among the thousands who come from the regions in Europe where the vine is unknown, it is impossible to find workmen capable of serving as foremen and to make up for the absolute inexperience of the workm number their orders.

In spite of the incontestable progress accomplished during the later years, it is still to-day extremely difficult to the planters to find master vineyardi-ts who understand the first rudiments of their trade. Ninetenths of the individuals who pretend to possess the technical knowledge indispensable to direct the operation of pruning, and claiming enorm us salaries, are edventurers who are not able to perform any serious service. The proprietors have also given up trying these expensive and useless auxiliaries. They have given the subject study, and have learned to direct the workmen themselves. The women, particularly, have distinguished themselves by their zeal. The Nineteenth Century cites the example of two English women who came four years ago to settle in Santa Cruz county without having seen in their lives a grapevine, and who administer now with remarkable ability the most succeasful viticultural enterprise in the country.

#### FUNCTIONS OF VINE LEAVES.

Alluding to Dr. McCarty's article in the Fin-yardist, on the fauctions of the leaf of the vine, D. S. Marvin says : There should be made this distinction between the leaves apon the vine. The several leaves opposite the clusters of graves upon the lower part of the cane may truly be termed fruit leaves upon which the development of the cluster mainly depends; the leaves at the ends of the cane are more for the development of wood and the long thinning of the canes. Of course the functions of all plants are carried on through the leaves. Sometimes there is too much of a tendency to the development of fruit, sometimes of wood. The best species and varieties of the vine are those that are somewhar evenly balanced in these tendencies. This enables the vintner to turn the functions of the plant into the divelopment that he desires. In the case of young vines and 1 oor growers it is to wood growth, in mature and vigorous vines to a greater development of fruit. If by accident the leaves upon the lower portions of the cane are lost there is never as well-developed clusters thereon, and if the ends of the canes are clipped off at the last bunch of grapes early in the sea. son the leaves grow much larger, with larger clusters of fruit; but the practice can be carried too far for the health and permanence of the vine. If the most of our vigorous sorts are so clipped year after year the vines become weakened, the health impaired, and disease follows. The skilled vintner has no fest end invariable rules; he is governed by the condition of each vine. If he wants more fruit from a healthy strong vine he shortens the canes and throws the forces of the vine into better developed clusters and leaves at the base of the canes. Experience has demonstrated that this process can be carried on from year to year, provided he de s not trim too close, say from one to four nodes beyond the upper clusters under ordinary condi-

#### RAISIN GRAPES.

#### Insect Enemies and the Art of Curing and Packing.

If water is handy the trench can be filled with water to advantage to drown the caterpillars. Of a very similar nature is the grape caterpillar or sphinx. This caterpillar when full grown is 31/2 to 4 inches long. It hatches from the egg laid on the vine leaves by the larger moth-the sphinx moth. The appearance of these caterpillare may be expected in July and August. To begin with the young caterpillars are hardly noticed. They feed on the top of the vines in the early morning and go down in the shade during the day. But in a few days more the damage to the vines is suddenly discovered, being stripped of all the leaves. The caterpillars grow with amszing rapidity and appear as if by magic. If left alone they will strip the vineyard entirely of all the leaves, exposing the grapes to the sun to burn and be seriously injured. There are two ways to combat this pest, viz: to destroy the moth from the eggs of which the caterpillar hatches, or to pick the caterpillar itself. The moth makes its appearance already in May, and from then on all through the summer. In the evening it comes humming to the flower-garden, sucking the honey from the flowers of the honeysuckle or the petunis. The color of the moth is grayish brown, with red and brown blotch on the hind wings. In size it rivals the small humming-bird.

A boy stationed with a butterfly net can catch hundreds of moths just as they come at sundown to feed, and as every moth laye thousands of eggs, the value of the destruction of as many mothe as possible is at once apparent. Every vineyardist should have at least one amsh patch of petunia flowers near the house. The moths will scent the flowers miles away and come to feed. If every vineyardist woule engage actively in the warfare on moths the caterpillar pest would be a thing of the past, However, if the caterpillar once has appeared in the vineyard, there is nothing to do but to pick them by hand. I know of a vineyard of 500 acres where 100 men were employed for three weeks to catch the caterpillars, Every day one ton were caught. Every man carries a basket with just a little water in it, on the top of which has been put a small quantity' of coal-oil, This is necessary, for otherwise the caterpillars will crawl out of the basket. A year in which these caterpillars are found in greatest abundance is generally or nearly always succeeded by years in which none or a very few are seen. They never appear suddenly, but they give warning to the vineyardist by sending out a few in advance. The year following the vineyardist should be ready in time with his butterfly nets, and if the moths are properly caught but very few caterpillars will develop.

#### THE WEATHER IS AN ENEMY.

Even in the elements the rainin vines have some destructive enemies. I will only speak of those injuries that might easily be prevented by the foresight of the vineyardist. The young vines, which in the early apring burst out with a tremendouagrowth, are at that time very easily injured by heavy wiods, which break the branches at the junction of the old wood and the new, and may entirely ruin that year's crop. I have already spoken of this under the heading of "Summer Pruning." The latter is the only effective remedy.

many districts counted on as a regular vineyard operation, always practiced at the same time every year, whether the reason is windy or not. Besides the loss fruit, a common effect of the breaking of the branches is the disease called the black knot. It consists in the formation of smaller or bigger excresconces on the old wood of the vine. When young these black knots are of a yellowish green color, smooth and rounded and about the size of a pea, from that to the size of a walnut. As the season advances the black knot grows larger, and in the fall it may have the size of a large apple. It's appearance is then very rough. like roughest oak bark, and the colar is almost black

In the winter it can be easily broken off, and is then seen to be porous like old decaved wood. The branches on which the black knot has grown have not properly de veloped in size, or may be even entirely dead. The damage on the Muscat is not as great as may be expected. In many vineyards the black knot is a yearly occurrence, but this year no diminution of crop has been observed. Still it is no doubt that the black knot is a serious drain on the vines, and if allowed to take its course it will eventually ruin them. The best remedy is to enrefully remove the black knot during the pruning season. It may be cut out of the wood with the pruning shears, or even simply knocked off with a mallet. Many remedies, such as bluestone copperas, white of lead, etc., have been used to canterize the wounds, but the most experienced vineyardist now doubt the efficacy of these remedies, and simply employ the shears to the mallet. The cause of the black knot is not fully understood. but it is very probable that it is caused by insufficient outlets for the rising sap in the vessels of the vine, The sap will, in early spring, rise with such tremendous force that the cells of tender vessels will extend beyond their strength and finally break, and cause an unnatural growth. In fact, the black knot is supposed to be simply a gall, without any insects, caused by the unnaturally heavy flow of sap to certain parts of the vine. After this gall or black knot once has etarted to grow, the continuous irritation attracts the sap from adjoining parts of the vine, which latter of course become exhausted, while the black knot continues to grow.

The sun-scald is a common injury to Muscat grapes. Those grapes which from want of sufficient protecting foliage are exposed to the hot sun and wind in June and July, become badly burned and will soon dry and spoil. Not only will the grapes be a total loss, but the bad berries must be picked off from the raisins at a great expense. The remedy for sun-scald has already been thoroughly discussed under the headings of summer-pruning and tying over, and I beg to refer to this. Damp rot is another destroyer of the raisin grape. It is simply caused by too great dampness of heground, and is to be feared in any lont well-drained vineyard. Proper pruning will allow sufficient air in among the grapes, while the draining of the soil will keep the surface of the ground dry. A more aerious injury is caused by spring frosts, generally between the 10th and 15th of April. In the principal raisin districts of California these destructive frosts are of extremely rare occurrence-prehaps once or twice in every fifteen year. They occur so very seldom that when they do come the vineyardist

remedy is to not plant raisin grapes in places where they occur regularly. As, however, there may be some localities which in other respects are favorable to the raisin grape, I will mention the remedy most generally used.

#### SMOKING A GREAT HEMEDY.

The only one practiced with success is smoking. The smoke is to be originated from any damp rubbish or straw on which is poured coal tar and water enough to pre vent a blaze. Small heaps are places as short intervals all round the vineyards, not only in the direction of the prevailing winds, as the winds at time of frost are generally changeable and may drive the smoke in the wrong direction. When frust is feared and before the shermometer has fallen to 35 degrees Fahrenheit, the fire are kindled. The smoke epresds over the vines and prevents the further radiation o the heat. It also prevents the effact of the rays of the rising sun, and if the smoke has been sufficiently heavy and applied in time the vines will be saved from any great in jury. When vineyard districts or colonics are situated in smaller valleys, the whole community should join together and forn regular smoke bands as regular intervalacross the valley. By lighting the fires eimultaneously a smoke cloud may be made large enough to cover the whole valley and prevent the frost from forming. In large open plains the successful smoking is done with some difficulty,

The already enumerated enemies and drawbacks to raisin culture may seem formidable indeed, and very discouraging to any one desirious of engaging in the rainin industry, but the facts are, and experience has demonstrated, that with proper care and foresight all these enemies may be overcome and success from year to year insured; and after ail, if there were no drawbacks to the industry. it would soon become so extended rhat to pursue it would not be prefitable. As it now is, the intelligent raisin-grower will resp the benefit. while the ignorant and indolent will be unsuccessful.

#### PICKING, CURING AND PACKING.

Varying with the season and locality the Muscat grapes ripen in California between the 10th of August and the 10th of September. The aeasons of early ripening are thuse most favorable to the raisin grower. as well as localities known for their earliness are those most valued for raisin vineyards. The value of earliness is apparent. It unables us to care the grapes in the sun without interference of showers of rain, and the early market has proven the best both as regards demand and price. When the grapes are fully ripe the picking should begin as soon as possible. When once picked the grapes do not ripen afterward. They must therefore be sufficiently ripe when picked. The riper the grape the bet-ter the raisin. The fully ripe raisin grape is characterized by great sweetness, not less than 25 per cent of sugar, and a semi-transparent amber color where partially exposed to the sun and light,

To ascertain the amount of sugar a box of fifty pounds of grapes of the first crop should be crushed and weighed by the succharometer. If 25 per cent of sugar is reached the grapes are sweet enough to make good raising, but the sweeter the grapes are the better. Before I discuss the picking and curing of the grapes, it is necessary to consider the desirable points in raising. The vineyardists who engages

the purpose he is try to accomplish, is not likely to succeed. I will first consider the points of quality in Museat raisius. The color is to be a deep violet brown. The skin must be soft, pliable and finely corrugated, with concentric circles or folds. It must not show large, flat surfaces hardened like horny nails. If the raisin cannot be easily compressed with thumb and forefinger, and assume a flat sharp when pressed between the table and the thumb, it has been dried too much. If again the jnice runs out of the raisin when similarly pressed it has been dried to little.

The stems must be fully dried, of a light brown color, not green and sappy. When these points in view the vin yardist may tart with the picking. He must previously have supplied himself with trays. These tre made of thin, half-inch lumber, naited to cleats one inch by one and a half inches wide and of desired length. The size of the rays varies in different places. The small ize, one and a half feet by two and a half. s used by many and considered very handy out the majority of the vineyardists use n arge size, two feet by three feet. The hingles should be well dried before nailog or else they will shrink and leave open places through which the raisins will full and will be lost. The cleats should be wet or green, so as to prevent splitting If to dry they may be soaked in water over night or for a few hours. The planed lumber for, the trays varies in price from 9 to 121/4 cents in the shooks. For nailing the trays together a frame is made from wood and iron. The cleate are placed on the two short opposite sides, a heavy bar of iron being immediately underneath. The planed boards are placed on the top and nailed with round wire nails, which clinch on the lower side as soon as they strike the iron. No cleate are needed in the lnng sides. A man can comfortable nail up 400 trays a day, at least after the first few days of practice. These trays must be distributed beforehand in the vineyard in piles at the beginning of every row.

In Muscat vineyards in proper bearing one or more trays are needed to each vine; while in vineyards of less growth and vigor, one tray may suffice for two vines. The picking is done by carefully cutting the ripe bunches from the vine, either by means of a small pair of shears or with stiff, sharp knives. The less the berries are handled the better; the more will be left of the bloom on the raisins, In fact the bunches should as much as possible be handled by the stem alone. The bunches are placed directly on the trays, as close as possible, not, however, to touch. The part of the bunch which shows the stem the most should be placed upwards, so as to allow the stem to dry quickly, as well as to properly flitten the butt or handsomest part of the bunch. If the bunches are too large to dry well it is better to cut them in two, and dry separately. A separate gang of men should go through the exposed trays and pick out all the bad berries from the large and fine bunches, but not from the inferior ones, as from the latter they may be removed by mechanical means more cheaply and quickly when the raisins are fully cured. To insure the full exposure to the sun one end of the tray may be raised by placing a small clod of earth underneath. After the grapes are two-thirds dried, which generally is done in about one week, they must be turned. This is done very rapidly by placing an empty tray over The summer pruning of the vines is in are unprepared to comhat them. The best to cure his grapes, but who is ignorant of the loaded one. Two men are required for the operation on each side of the tray. Each one holds a lath of the length of the tray and places it along the opening be tween the two trays. This is to prevent any berries from falling out while turning the tray. In this way the whole erop may be turned in a comparatively short time. A picker averages fifty trays a day; much, however, depends upon the condition of the vines. Those which have been earefully treated and attended to during the praning and turning are much easier and more quickly picked than those which have been neglected.

#### HOW TO PLANT A TREE.

As the time for tree-planting approaches, we have requests for articles on this subject, and we can hardly do better than reproduce one from the experienced pen of Mr. D. Redmond, then editor of the Southern Cultivator, in which he tells how to plant a tree in the proper manner.

The best time, he says, for planting all hardy trees in mild climates is after the first killing froats-November and December being the months in which the operation is most successfully performed. Transplanted at this time, they throw out small fibres from the roots during the winter, and start with the opening season into healthy growth. Still, they can safely be set out at any period from the first heavy frost nntil the bads swell, but if an early period within these bounds he selected for planting, the more vigorous will be the growth of the tree-nuless it be like the fig, liable to be injured by the severity of the winter, or as some evergreens, to be blown about and loosened at the roots by the winter gales. If planting cannot be done before Christmas, all trees do better late in February than if planted in the severe cold of midwinter.

When you have the ground properly prepared, and the holes dug, take up the tree with eare, not cutting in the roots with the spade too near the trunk. To do this, dig around the tree, at a distance more or less, according to its size, a semi-circular trench the proper depth being a little below the horizontal roots, cutting them off at the extremities merely, in forming this trench, instead of mutilating large roots. When this trench is formed, reach under with the spade and ent off the tap-root if there is one; then bend the tree over towards the trench and finish the circle by cutting around the tree vertically with the spade-The tree can then be lifted and if near the place can be taken with the boll of earth attached to the roots, and set in its new location, of if it is to be carried any distance, when the earth is shaken out, the mass of fine, unbroken roots will insure its aafety in its new position. A tree can be taken up in this careful manner as quickly as in the ordinary random, hap-hazard

When taken up, carefully protect the roots of the tree from the frost, snn and dying winds. Thousands of trees are thus nearly or quite ruined, or at least a year's growth thus lost. The roots, after taking up, should be kept covered with loose earth, near where they are to be set out, taking ont a handful of trees at a time, as wented in planting.

Prepare the ground for your trees by deep and thorough tillage, and a few days in sdvance of planting, make holes fully two feet square, and one and a half or two feet deep, and in making them throw the good top-soil out on one side, and the poor indamsble on fire.

on the other. Loosen np the bottom with a crubbing-hoe: throw in about two inches of good soil to lighten what is to be thrown in, as if clay comes directly upon clay, it will harden and become impervious to water. Now break in roughly all the sides of your hole, to fill up the bottom therewith as much as practicable, adding the good soil laid on one side, and if necessary other good earth sufficient to fill the hole to the proper depth for receiving the tree. Place the tree now in position, and let its general inclination be in the alightest degree possible to the southwest, for all trees have a tendency, if not checked, to recede from that point, and incline to the northeast, forming most of their wood in that position, a tendency that must be guarded ngainst, both in planting and pruning, while growth towards the soothwest side of the tree is to be encouraged, in order that the tree may preserve its balance and

Trees must not be planted too deep, which is the great error with nearly all planters. After a hole is entirely filled with loose earth, by taking out one good spade ful you will have room enough for the roots of a common unrsery tree. Sight your tree when in position, and ace that it is in line, and that the rows are perfectly straight, and then plant, covering the roots with good friable soil, and shaking the tree quite lightly and repeatedly, until it feels firm, by the earth settling among its roots; then press the earth lightly with your foot, and scatter the poor soil thrown out from the bottom of the hole upon the field, and the tree is ready for the rain. In our hot elimate a little extra earth is thrown upon the roots the first winter, to protect them, which the summer rains will wash away.

In spring transplanting, the soil must be beaten about the roots much more firmly than in fall, as at that time the winter rains will beat the soil in about the roots. Fall-planted trees should be examined in spring, to see if they lean, and should then be restored to the proper position, a little inclining to the southwest.

After the tree is taken up it must be proped and fitted for its new condition, The roots have been necessarily considerably reduced, and the branches must be rereduced correspondingly. In all cases, then reduce the top. The French gardeners, in planting quite young trees, cut them down to twelve or eighteen inches from the ground, and allow them to make their own system of branchea on the spot ("faire bois neuf sur la place.") In planting older trees, more care has to be taken to prune sufficiently, following the same principle of keeping up the equilibrium between the roots and brances. Let the roots, however, have the advantage. With a good system of healthy roots, it is easy to restore the top. Prune these older trees in pyramidal form.

Apple trees should have three or four substantial roots, and not be all fine, hairy roots, or they will never make a fine, substantial orchard tree, but always be loose in the earth, and finslly blow over, ruless anchored by strong, substantial roots

Dn. JUNEMAN, an Austrian chemist, has invented the most destructive fluid known to man. This fluid, when brought into contact with the sir after the explosion of a shell in which it is held, becomes a gas that destroys all living things within its reach, melts metals and sets everything inflamsble on fire.

#### PICKING AND PACKING.

A. S. Watson, an experienced grape coltorist in the east, writing on the subject in the Fruitrower says:

In picking grapes from the vine, they should usually be taken by the atem, which is elipped from half to three-quarter of an inch from the cluster, and placed earefully in the basket; in all operations avoiding touching the (ruit as much as possible, as in so doing injures the bloom, and the most delicate beauty of the grape. If there are four or five girls or women picking, there should be one man carrying baskets and to assist in carrying out the grapes. After the fruit is packed in the basket, when it is fresh and erisp, it is not in frequently the the ease that in picking np the baskets, setting them down, or carrying them out, the fruit is jostled so as to erack and badly injure much of it. Rough and aukward help have no place in the vinegard, and the very help that are strong and efficient in many other kinds of farm labor, cannot be properly impressed with a constant feeling of care necessary.

The packing-room should be light, clean and airy, and in case the vineyard is of any considerable size, there is little danger of its heing of too great proportions. All grapes should be picked and remain from 21 to 27 hours in the packing house, according to the weather and condition of ripeuess, before being re-packed. By that time the stem is wiltered and the skin somewhat toughened, so as to pack much better than when freshly picked, and in packing all eracked, green and inferior grapes, should be elipped out. In packing commence at one end of the basket, laving the clusters with the atems usually inclined downward, requiring about tow layers. The baskets are filled so as to be slightly more than level-about one-half inch, say, more than level. In putting on the covers ears should be taken in sliding them under the handle, as this is the way oftentimes that many grapes are braised and ernshed. It usually can be done by pressing on the handle so as to widen the the basket, thus enabling the cover to stide under without any trouble.

One feature deserving a good deal of attention is the fact that the faney prices paid for a few of the very first grapes has resulted in tempting many parties to pick fruit not sufficient ripe. Of conrse they get a little better price for a very little while to start with. The result is that ever basket of such fruit, being tart and really unfit for use, prevents the sale of at least a halfdozen baskets of ripe fruit, and has the effect of decreasing the demand and seriously injuring the price of subsequent shipents. The practice should be downedby the public, and as far as possible prevented. No grapes ought ever to be shipped to market nutil fully ripened.

#### PLOWING VS. CULTIVATION,

A reader of the Southern Californian calls attention to a statement made presymably on good authority that the plow should never be used in the orchard or vineyard. The reason for this, the paper says, is given as being that the surface roots are cut by the plow and the growth of the trees and vines is thus injured. Following this, the use of the cultivator alone is advocated, the advice being given that the plow never be used. The writer has consulted several horticulturists of long experience upon this subject, and from their experience it can be sately set down that the advice referred to is entirely erroneous, and if followed for

a number of years can but result in great damage. In the first place, the effort should be not to encourage the surface growth to the roots, but on the contrary to induce them to co downward where moisture is found. Where irrigation is practised, anless the ground be soaked to a great depth, the tendency is for the roots to remain nearer the aurisce, and as a consequence the frequent application of water becomes necessary. If, on the other hand, the roots of the trees are encouraged to grow downward as much as possible, it is found that the necessity for irrigation grows less and less each year and sometimes ceases altogether.

The aim of irrigation should be to allow the water to soak as far down as possible. To this end, it is essential that the soil be loosened deeply by the plow. In many soils there is a hard-pan at a depth of eight or ten inches through which the water with difficulty finds its way. In all kinds of soil the constant use of the cultivator without the plow tends to assist in the formation of hard-pan at the depth reached by the cultivator. This is seen in the lightest sandiest loam. After two or three year's use of the cultivator there will be a thick shell formed, which is very apparent when a plow is used thereafter.

After much experimenting, the best plan of cultivating an orchard or vineyard would seem to be this: In the early spring, when the ground is thoroughly moistened with the rains, put on a good plow and have the soil broken just as deep as the share will go. To be sure, great masses of young roots will be turned up-that is, if the plow has not heen regularly used before-but that need not give cause for alarm. After the first year of this sort of treatment the surface roots will become less and less in number, and the plants will draw their sustenance from beneath. After plowing (once will suffice each season) the cultivator should be kept going, and the auriace for a depth of six or eight inches should be kept in as fine tilth as possible. This will act like a mulch, and will preserve the moisture beneath, as well as tend to attract it upward.

In sections where irrigation is not practiced this same method of plowing and cultivation should be followed. Where no artificial sources of supply are available, it becomes uccessary to the highest degree to take full advantage of the rainfall. Where constant cultivation without plowing has allowed the formation of hard-pan, the rain will not soak in to any depth, but will remain on the surface and run off to a lower I vel. but when the soil is kept loosened to a good depth it is in condition to absorb all the rain, and hold it for the austenauce of plant life during the dry summer account.

#### CULTIVATION AFTER BAIN.

There is a constant rising of moistnre through the soil to replace that evaporated on the surface. In any soil containing clay this water holds much mineral substance-mostly potash. This the evaporated water is obliged to leave, and it forms the well-known "crust" that is found after every heavy rain. The crust keeps the light and air from the soil. Breaking it, before it is too dry, by cultivation, is doubly helpful, as its mineral elements placed again under the soil become decomposed and fit for the use of plauta. Hence, cultivation after raio is equivalent to a top-dressing of as much mineral matter as the crust contains, besides more or less of ammonia or available nitrogen.



ISSUED FORTNIGHTLY ON FRIDAY MORNING BY E. C. HUOHES & Co., - - Proprietors. Office, 511 Saoseme street.....Pestoffice Box, 2366

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#### FRIDAY......NOVEMBER 10, 1888

Miss Field is doing good work in the East, and ministers, of all denominations, and physicians, favor her doctrine that the introduction of California wines, into more general use, is the most effective means of checking drunkenness andthe kindred evils which attend the sale of whisky and other ardent spirite. In a letter just received from Miss Field, now in New York, the Viticultural Commission is informed that a Boston clergyman, who has just returned from Greece, advocates the general use of pure wines. The minister is credited with saying that he considers the use of wine would be a beneficial reform in this country, as it is an antidote for intemperance. His conclusions were reached after observations among the modern Greeks. He believes the only drunkenness in Germany and France ie due to the use of absinthe.

Another letter, written from Washington, is quoted as follows: Those charming members of Washington's diplomatic corps, Baron and Baroness Fava of Italy, in recently being introduced to some California elaret by Miss Kate Field, were greatly pleased with it. "Excellent! The pure juice of the grape!" they exclaimed. "Approbation from Sir Hubert Stanley is praisa indeed."

THE WINE industry in California should, of all others, be well represented at the Exposition to be held in Paris during the coming Spring. Our wines and raisine are now steadily working their way to the front rank in the markets of the world, and on this account, in France, the great wine producing and wine-drinking nation of the earth, particular interest will be taken in our dieplay. Every assistance should be rendered the Commissioner for their distric in collecting samples, towards which end nuited action, on the part of wine and raisin-makers, is of the utmost importance.

According to a statement prepared by the Commissioners of Internal Revenue, the per capita consumption of wine in the United States was 0.54 gallone in 1887, while in 1840, it is estimated at 0.29 gallons, showing a material increase. A corresponding decrease is noted in the per capita cousnmption of distilled spirits, which is placed at 1.19 gallons in 1887, against 2.52 gallons in 1840.

IN ANSWER to a letter from Clarence J. Wetmore, Secretary of the State Viticultural Commission, asking for information on the value of California dried grapes in the French market, A. Dufour, a prominent dealer in this commodity at Bordeaux, writee:

DEAN SIG :- It is difficult to report ex actly, without testing a large sample, buin face of the value of Smyrna grapes (currants), we are of the opinion that the Zinfandel would fetch about \$4.40 for 110 pounds, landed at Bordeaux, stemmed. The unstemmed grapes could be used, but their value would be, of course, far less.

The crop of grapes has been large in France this season, which will reduce the making of wine by means of dried grapes

This firm is at the disposal of any parties wishing to try our market for the said Zinfandel grapes.

#### SAN FRANCISCO, Nov. 7, 1888.

The Bradstreet Mercantile Agency reports eixty-nine failures in the Pacific Coast States and Territories for the month of October just closed, with assets \$167,-162 and liabilities \$322,588, as compared with forty-eight of the previous month, with assets \$204,860, and liabilities \$390,-186, and forty-four for the corresponding month of 1887, with assets \$53.087, and liabilities \$174,937.

The failures for the past month are divided among the States and Territories as

ionows:		
State. No. California63 Oregen4 Arizona,2	Assetts, \$151,462 00 12,500 00 3,200 00	Liabilities. \$293,209 00 20,379 00 9,000 00
Tetal69	\$167.162.00	\$399.588.00

Six million dollars has been advanced by London capitalists to build railroads in Honduras and elsewhere so as to concentrate the fruit market at certain selected shipping points, a syndicate having been organized in New Orleans, representing \$19,000,000 capital, that will seek to control the entire fruit output of Honduras.

EXHIBITS ARE constantly coming in at the headquarters of the State Board of Trade, Among those recently received are grapes, apples and pomegranates from San Diego. Solano county has a display of preserved and dried fruits, most tastefully arranged. Nevada, Oregon and Arizona will all be represented.

THE BAISIN crop for the year will aggregate, according to the reports in the raisin districts, fully 1,200,000 boxes. The raisin pack of San Diego county alone is estimated at 150,000 boxes, of which El Cajon valley will furnish 100,000, and Escondido 30,000

THE NEW YORK wine papers in summing up the changed prospects for the year in the grape districts of the Eastern and Western States, believe that good old wines will be in demand this year.

THE ELECTION is over, and few will be found to regret it. Everything passed off quietly, and the country is to be congratulated on the cleanest and most orderly campaign which has taken place in many

THE STATE Board of Viticultural Commissioners will open its Wine Exchange in Platt's Hall in the early part of next month.

#### PARIS EXPOSITION.

The following circulars have been received from the Commissioner of Agriculture, and his representative directing attenion to the exhibits in this department which are desired for the International Exposition to be held in Paris during the coming year. The co-operation of all connected with the agricultual industries of this section of the country is solicited:

EDITOR MERCHANT:-The Congress of the United States having accepted on the part of this Government, the invitation of the Freuch Republic to take part in an International Exposition to be held in Paris in eighteen-hundred-and-eighty-nine, has directed the Commissioner of Agriculture by joint resolution approved May 10 last, to collect and prepare suitable specimens of the agricultural productions of the several States and Territories of the Union for exhibition at said Exposition.

A special division has been organized in this Department for this purpose, and a unmber of Special Agents have been appointed by me to collect enitable specimens for exhibition.

Statistics support the assertion that agriculture furnishes four-fifths of our exports and it is to the interest of all our States and Territories that the United States should be creditably represented by this Dpartment at the great exposition which the French people have organized at Paris, and which will attract countless visitors from all countries of the world. It is therefore needless to dwell upon the importance of the agricultural section of the United States exhibit

In view of these facts, you are cordially invited to cooperate by every means in your power in the special work assigned to the agents appointed by this Department in this important duty.

If possible one of the agents will call upon you in the near future; and in the mean time this Department would be pleased to hear from you and to get your views as to the most appropriate products of your section of country, and such as would be most desirable for the purpose indicated.

Very respectfully,

NORMAN J. COLEMAN, U. S. Commissioner of Aoriculture.

Washington D. C., October 12, 1888.

EDITOR MERCHANT;-The exhibit which the United States Department of Agriculture is preparing for the International Exposition in Paris, in 1889, is to include materials to set forth the history, status, work, and tendencies of agricultural education and agricultural science in the United States. For this purpose, printed statements, diagrams, pictures, and other illustrative matter concerning agricultural schools, experiment stations and other like institutions, are desired. To this end will data regarding your own institution, and return it to the Department in the inclosed envelope, at your earliest convenience.

The Commissioner of Agriculture has appointed me to take charge of the exhibit, to be propared by him and to represent him in all matters pertaining thereto; and Prof. W. O. Atwater has been charged with this educational division. I would beg you to help to make this part of the exhibit worthy of your institution, and rend to the Depart ment by express, or otherwise, at its expense catalogues, reports, and other publications, which will explain in detail the facts summarized in the blank form, in order that they may be used wholly or in part for the exhibit at Paris. By doing so you w greatly oblige.

> Yours respectfully, C. V. RILEY,

Representativ Washington, D. C., October 12, 1888.

#### THE PICHOLINE OLIVE

EDITOR MERCHANT:

Have we in California got the true Pic oline? I unhesitatingly answer we have us unless the "Oblonga," which I and son others have introduced from France, shoul prove the true Picholine; however, even this I have my doubts, as it manifests wit me too much tenderness to frost even fe a Pichotine.

I think there is no question that a cruhoax has been played upon California i the matter of the true Picholine. An olive said to be imported by the late B. B. Rec ling, has been taken up by the nurseymen and dubbed by them the Picholine, an sold in immense quantities during the lat dive craze, and now that the olive is frui ng, California may weep; I, myself woul cep if I could, but I am too mad for tha like many another brother fool, I though he nurserymen knew what they sold, an dd no untruths, and I hought their so alled Picholines by the thousands. T ome of my so-called Picholines have fruit d, and there is not the pretense of a tru Picholine among them. I am thrown o my back, and left with the best remedy a hand, to graft, which is no child's play, t bud, which is no holiday task either. Tuwise or the lucky ones who refused to abid except with the Mission olive, may now well cry "I told you so," and scratch their elbows while they chuckle.

What is my groundwork for saying that the olive which I will call the Redding olive, ie not the true Picholine. First. have seen and eat many an olive called Picholine, but never the like of what my so-called or Redding olives are bearing. The Picholine olives I have been accustomed to were loug, peculiarly long I would add, as long at any rate as an ordinary Mission, though not so thick. I would not call them small unless placed over against "Queen Olives," hut strikingly iodiosyncrahically long; indeed, they were true oblongs. Now the olives my trees are bearing put me in mind of very big peas. They are not oblong; their insignificance is their marked character. Second. The U. S. Commissioner of Agriculture in the MERCHANT of the Redding olive, a small oval olive weighing about one-sixteenth of an ounce, whereas, the following, says Du Breuil, of the Picholine- " olive large and very prolonged " in which latter expression concurs contance. If then it can be shown that the small of the U.S. Commissioner you kindly fill out the inclosed circular with of Agriculture is the same as the large of Du Brenil; or the oval of the U.S. Commissioner is identical with the very prolonged of Du Bruil I'll wish myself in error, but it it can't I hold my point proven.

As I never want to appear in company with the fox who sought all the other foxes to cut off their tails because he happened to lose his own, I advise, if I may dare, all prospective purchasers, of olive trees to resolve what is the Picholine, and who has it before they purchase. For me, no more of the Redding Picholine, or of any other till I know further. Gentlemen, it is time to halt if we would not do worse.

JOHN A. STEWART, Etha Hill Santa Cruz Co., Cal,

#### THE TAX ON FREIT BRANDY.

The wine-growers of the country should be made aware of the fact that a bill to abolish the Internal Revenue tax on Fruit Brandy has been introduced, and is pending in the U. S. Sonate, says the N. Y. Wine and Fruit Grower. There is scarcely anything that could be thought of which would deal the brandy distillers so destructive a blow as this proposed law; it would in fact be a tragedy for that interest, and put an end to anything in the shape of pure wine brandy. There is not a brandy distiller in the whole country who does not know that the moment the hand of the law is lifted from the regulation of this industry, the door would be opened to endless fraud and adulteration, through which greedy rascals would rush in droves. Within a period of less than a year, the reputation of Ameriean brandies for purity would sink below contempt, and we should have only the made-up adulterations which has brought shame and ruin on the French brandy

The only place on the globe where pure wine brandy is made now for commercial purposes is in the United States, and the only security and guarantee it has for purity resta upon Governmental supervision, The tax should not be removed. All who are interested in the wine industry in this country, should enter an emphatic protest against it to their respective Senators and Congressmen. Any political party that proposes to lay violent hands on this industry, should be made to understand that they are facing a grave responsibility.

### Sugar Quotations.

California Sugar R. finery price list dated November 10th Circle A. Pat Cube, 71%c Circle A Crushed, 71 c; Fine Crushed, 71 c Extra Powdered, 71sc; Dry Granulated, 634c; Confectioners' Circle A, 65 c; Extra C, 55, e; Golden C, 514e; Star Drips Syrup, in bbls, 20e; hf do, 221 je; 5-gall kegs, 271/4c; 1 gall tins, 371 ac per gallon.

Price list of the American Sugar Refinery dated November 10th: Extra Fine Cube, in bbls, c; Circle A, Crushed, 73, e; Fine Crushed, 71, c; Powd-red, 71, c; Extra Fine Powdered, 73 se; Dry Granulated, c; 71/2XX Dry Granulated, 634e; Confectioners' Circle A, 63 e; Extra C, 53 e; Golden C, 51 e; American Golden Syrup, in bbls, 20c per gallou.

### WHOLESALE MARKET.

Quotations given are for large lots to the whole

CALIFORNIA RAISINS

Halves, Quarters and Eighths, 25, 50 and 75 cents ligher respectively than whole box prices.

London Layers, choice per box \$2 00 or	2 25
Layers, per box ig	1.75
Loose Muscatels, common, per box 1 40 cc	1.50
	1 75
y is fancy, is it (a	2 00
Unstemmed " in sacks, per B 11,2"	Se.
Stemmed " " Dut	54gc
	δc
" per 20-th, box 90bit	
" Sultanas, unbleached, in boxes, & B. Gar	
" bleached, " "@	
CANAND GRALES	

Gapes, Muscat, 25g Re. 8 1 100 a 1 50. Galis. 4 50c 3 do tius 2 25 a 2 45

Sun Dried Grapes, Stemless,  $\mathfrak{sl}\mathfrak{s}_1,\ldots,\mathfrak{sl}\mathfrak{s}_1 \not \equiv 4$ I natemed, sks.

In the San Francisco Market, Grapes are steady. We quote Wine Grap s \$10 00 @\$15 7 ton for Zinfandel and \$10 00(a \$15 00 for other kinds; Table Grapes, le(a 50c 2 box for Black, 40 (a 50c for Cornichons, 40(a 45 for Takays and 10(a 50c for Muscat. Le cut just above a had at one end and just several will attack a ripe peach smultan- grape, as pomologists understand it.

### MARING A AINEVARD

A correspondent writes as follows to the Montgomery (Ala.) Advertiser: I am going to put out four acres in grape vines this winter and a few pear and apple trees. I am entirely inexperienced in this business and write to intrude on your knowledge and kindness for the desired information My confidence in your judgment prompted me to call upon you in this particular. My farm is twenty miles cast of Alauta, Ga., on the Chattahoochee river, four miles from Norcross, the nearest railroad station. The land selected for a vineyard is a hill, has been cleared about seven years, has red clay foundation and dark red soil. The land it very good, and produces about three-fourths of a bale of cotton per acre. The east side of this hill is the most appropriate place I can find for the grapes. Now will you please tell me if this is a favorable plan for the grape. My neighbors tell me that this kind of soil is especially adapted to the grape. Also, will you tell me the most profitable kinds to plant and where I can secure them the cheapest. I will want about four thousand cuttings. Any information you will give me on this subject will be highly appreciated by me. Please advise me the most inteligent way for me to persue to start an orchard and vineyard."

To this Prof. J. S. Newman, of Au burn, Ala., Agricultural College, who edits the "Agricultural Department" of the Advertiser, replies as follows: The soil and exposure are well selected. The soil will retain fertilizers applied to it and hence is susceptible to the high state of improvement so necessry for eminent success in grape culture as well as for that of apples and pears The exposure to the cast is just what is needed for grapes since the early morning sun dries off the moisture from the vines and fruit before the temp rature has been clevated to a point favorable to the vegetation of fungus spores. When the temperature rises the moisture bas been disipated so that cotditions favorably for mildew and rot are not likely to be supplied upon such an exposure. If grapes are planted upon a western or northern expos ure the moisture remains until the sun has raised the temperature and the conditions favorable to rot and mildew are thus sup-

If you propose using cuttings instead of rooted vines you will have a year in which to prepare your land for the reception of This will best be done by terthe vines. racing the entire slope of the hill to be occupied by vines and trees and sowing broadcast in peas, fertilizing them to produce a maximum quantity of vines. Plow between the terraces several times, with hillside plow, throwing each furrow down the hill. This will partially level the soil b tween the terraces and prevent the possibility of surface washing. B fore planting make a liberal application of ashes, hone meal and cotton seed meal, and when the trees and vines are planted make a heavy application of compost and bone meal in the furrow opened to receive the plants, Of course the plants, both trees and vines, will be planted in houzontal rows, parallel to the berraces.

The cheapest way to procure cuttingwill be to assist some one who has a vineyard to prune his vines for the wood. You will thus learn how to prone and make the enttings. The latter need not be more than six to ten inches in length. They should wood species. When they are plentiful

bud to avoid injuring it. The cuttings may a few hours, be planted in rows one foot apart and six inches in drill. They will take root more readily if the top bud is covered from half to one inch under the surface.

### A CHEAP WASH

The use of caustic soda is simply to reduce the resin to the condition which will admit of its being diluted with water, and the public in lectures; the advocacy, as a it does not, therefore, act as an insectide, its caustic properly having been largely or wholly neutralized by the rosin. This has been made a representative of the leaves a sticky residue upon the leaves, giving them the appearance of being varuished, but in the course of a few days this is blown off of the leaves, leaving the latter in a clean and healthy condition. have used this wash upon orange trees, and abuse of the pure grape juice in which Miss have seen it used on orange trees, also on Field believes. As a stimulant she regards rose bushes, and in neither instance were either leaves or fruit injured by it, while a large percentage of the lecryae were d so highest scientific and medical authorities. troyed. It has the property in an eminent degree of saturating the egg masses, and I have seen numerous instances where these ity which Guizot well defines as the genius had been saturated and the eggs killed, of humanity-her purity of purpose, and while the females to which they were ottacked escaped unharmed, and exercted new egg masses upon the old ones, the new ones being very noticeable by their pure white color. I have never used this wash upon the red scale, but reliable parties who have done so inform me that it proves fatal to a large percentage of these scales. One thing greatly in favor of this wash is its remarkable cheapness; the materials of which it is composed can be purchased at such a rate that each gallon of the wash will cost only about 1, cent.

### A PEACH DESTROYUR.

The Florence Enterprise says: It has been observed for several years that the ripening peaches in this valley have been attacked each year by some insect that devoured the mellow side of the fruit to the pit and thereby destroyed it for all uses, but the exact nature of the enemy was not discovered until quite recently. Mr. Il G Ballon has given the subject his careful attention and finds that the depredator is a species of bettle, not mentioned in the standard works of entomology, and, although the destroyer is now fully identified, its habits are yet almost known. An old treatise describes an analogous insect in the Carolinas, called the brilliant Allharina, and it also, speaks incidentally of ts closely related species, the Changeable Allharina, the predatory bettle of this valley, of which it gives very little information further than a clue to its identification, In this valley it appears after the first summer rains, apparently from the low, moist lands, and immediately seeks the peach orchard where it selects the choicest fruits and ruins them. In case there are no ripening peaches it feeds upon grapes and even upon the growing cornstalks, evidently seeking the saccharme juices of the fruit or plant. It disappears during the latter part of August. Some years only a very few appear and they have never been obobserved in formidable numbers, as they probably fall a prey, in turn, to their insects and birds. They are quite a large and hamlsome bettle, of an indescribable changeable color, quite unlike the cotton-

below at the other; cut half inch from the cously and devours all its mellow portion in

### MISS THAD A SUCCESS.

A New Orleans correspondent writing to the Times Democrat says: After extended observation of California vineyards Miss Field has returned to the East with some new illuminations on the temperance problem, which she will probably place before temperance measure, of the pure, light, native wines as a table beverage. She Stat of California with the full authority of the position; and her convictions on this subject seem to embody the ideal of morality, common-sense and enlightenment. It is the legitimate use, and not at all the it as far less injurious than tea or coffee, in which position she is it accord with the

It is always safe to trost Kate Field's ra e endowment of common sense-a qualmoral heroism. In this age, not lacking in its shams and saperficialities, it is inspiring to know a representative woman in whose theories and methods entire confidence may be placed : whose ideals are not merely a masquerade of effervescent emotions, whose aims are not in the line of sensational reform, but are, rather, serene and steadfast, because they are based on practicable methods, clear intellectual insight, and sustained by noble motives.

### Soda-Water.

The profits which dealers in carbonated beverages may reasonably hope to make, says the Analyist, can be readily inferred from the following accurate estimate of the cost of manufacturing each beverage:

One glass of plain soda costs one-tenth of a cent.

One glass of soda-water with syrup costs

One glass of mineral-water costs 1 cent. One glass of root-beer costs 1 cent.

One glass of ginger-ale costs 114 cents. One glass of fine draught champague eosts I cents.

### Agriculture,

It appears that forty-four per cent of the carnings of mankind are agricultural, but in the United Kingdom the rate does not exceed twenty-one, and even in the United States it is but thirty-eight per cent. On the other hand, in Russia it is sixtyseven, in Spain sixty per cent, both of which countries are very poor. It is only by the use of improved machinery that agricultural can now be carried on with profit, and in this respect Russia and Spain are still very backward.

VITIS PTEROPHORA, a curious grape from Britzil, which has been named by some authors Vitis Gongylodes, is the subject of a colored plate in Garten Flora, The leaves are trifolate and nave brilliant red stripules and tendrils. The stems are curiously winged. The fruit is in a smull cyme of small berries, like an ampelopsis, to which branch of the grapevine family it evidently approaches, instead of the

#### OUR NATIVE WINE SHIPMENTS BYSEA.

#### PER P. M. S. S. CO'S STEAMER COLIMA, OCT. 30, 1888.

TO NEW YORK.

MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	VALUE
K & F	Kohler & Frohling	10 barrels Brandy		\$930
P1	6.6	642 barrels Brandy	152	354
B D & Co	B Dreyfus & Co	GO barrels Wine		1,650
41	- 11	26 kegs Brandy	260	450
G A	с Сатру & Со	2 casks Wine	122	105
	Lenormand Bros		992	296
	G Cappuro	2 barrels Wine	94	47
A C	****	4 barrels Wine	190	95
		1 barrel Wins	51	38
	Aug Erz		1,270	475
	S Lachman & Co	12 barrels Wine	627	188
Win diamond	***	7 barrels Wine	359 }	253
"		1 case Wine	102	
		4 half harrels Brandy		204 631
A P	Williams, Dimonda Co	19 barrels Wine	2,524 54	108
	m	2 half barrels Wine		1.649
7 in the	Trapou, Rerges & Co.	104 barrels Wine	4,382	
Z III diamond	Kobier & Van Bergen	85 barrels Wine	4,182	1,250
Takal amount of W	as I sees and		18,987	\$6,788
				1,938
	TO OBSTED	T LANDAGE		

#### TO CENTRAL AMERICA.

H G, Guatemala	N V Bergen	2 cases Whiskey	151	\$57
CAH. La Libertad	Urrela & Urioste	1 keg Wine	10	11
D S. A. ajutla	Dieckman & Co	1 keg Wine	20	20
VII S, Acajutla	**	2 cases Wine		25
BB& Co, La Libertad	Bloom, Buruch & Co	3 barrels Wine	152	76
A C D. Acajut'a	Wilmerding & Co	1 barrel Whiskey	38	116
P A. Puntas Arenas	44	2 barrels Brandy	80	
T A, La Libertad	Koh'er & Frohling	I quarter cask Wine	33	33 (
P in diamond, Puntas Arenas	B Dreyfus & Co	20 ha'f-barrels Wine	551	625
M B, Puntas Arenas	44	7 half-barrels Wine	193	160
JCN, Puntas Arenas	44	2 barrels Wine	100	87
R M, Acajutla.	11	2 half-barrels Wine	55	65
A C D, Acajutla	6.6	9 half barrels Wine	243)	
* * u	4.6	9 kegs Wine	90 {	
44	19	16 kegs Wine	80)	360
		2 barrels Whiskey	85	115
		2 barrels Wine	102	77
		2 kegs Wine	40	50
CA, Puntas Arenas	Montealegre & Co	6 barrels Wine	120	100
V V, Ln Libertad	Eng de Sabla & Co	2 barrels Wine	20	20 .
M Y, Champerico	E L G Steele & Co	12 barrels Wine,	180	159
BO, La Libertad	abrera, Roma & Co.,	9 cases Wine		39
		22 ca es Wine		88
		242 barrels Wine	52	31
J M C, Punta: Arenas	**			50
Y F P, La Libertad	49	8 kegs Wine	80	56
M H C, Puntas Arenas		2 kegs Wine	20	15
H G, San J. se de Qunt	Napa Valley Wine Co .	6 cases Whiskey	15	58
11		2 barrel Wine	52	46
S C in diamond, Corinto	**	12 cases Wine	39	56
44	1.	1 case Whiskey	2	7
m-4-3 A -4 3371	10 1		0.001	20.000
Total amount of Brandy			155	353
Total amount of Whiske	y		103	223

### TO MEXICO.

M in diamend, Mazatlan	W Loaiza	1 balf-barrel Wine	28	\$15
V & Co, Acapulco,	J Guodlach & Co	8 barrels Winc)		
44	**	1 % barrels Wine		
14	**	2 kegs Wine	447	252
"	"	1 keg Brandy	25	52
Total amount of Wine			475	
Total amount of Brandy		······································	25	50

### TO PANAMA.

S E. . . . . | E L toold . . . . | ti cases Whiske

TO SOUTH A	MERICA,		
F. A F, Ecuador   Arpad Hara-zthy & Co   2	barrels Wine	23]	81
IO NEW YORK-PER		· · · ·	
	U tarrels Wine		
A C	5 barrels Wine		
p.F	9 packages Wine	1	
P F 35	1/2 packages Brandy	28	856
	5 barrels Wine	8,421	3,368
	4 barrels Wine	2,568	1,027
G & M K Schmidt 45	2 barrels Wine	2,016	806
W& Co, in diamond Berringer Bros 10	Ole barrels Brandy	240	480
J W & B D wning & Schmidt 10	00 packages Wine	14.689	5,876
A G & C A Greenhaum & Co 10	00 packages Wine	4,977	1,991
X in diamond	00 packages Wine		
2 50	O barrels Wine	7,378	2,951
C M C, Jr Field & Stone 1	package Wine	50]	20
JCS B Dreyfus & Co 4	42 packages Wine	- 1	
B D & Co	50 packages Wine	95 969	* * * * * * * * * * * * * * * * * * * *
B D & Co	73 packages Wine	35,362	14,120
k & F	S packages Brandy)	2,301	4,602
Koner & Floring 20	02 parkages Wine	20,550	8,220
J io diamond Siebe Bros & Plagem'n 4	barrels Whiskey	200	600
11 (4 (2)	25 barrels Whiskey	550	1,650
J F Wilson	cask Wine.	64	2000
A V Co U Schilling & Co 3	300 barrels Wine	9,435	3,77
Total amount of Wine, 2 cases and		105450	\$42,17,
Total amount of Brandy	**** *********** *******	2,569	5,13
Total amount of Whiskey		750	2,25

### MISCELLANEOUS SHIPMENTS

DESTINATION.	VESSEI.	RIO.	GALLONS.	VALUE.
Honolulu	Zealandia	. Steamer		81
Liverpool	. Umatilla	Ship	1 290	
Kabulin	Undaunter	. Brig	80	6
	City of Peking	•		
			4,310	\$2,42
Total shipments by 1 : Total Miscellaneous sh	nama steamersipments	21,79	36 gallons	\$9,333 44,599
Grand totals.	******	131,40	66	\$53,932

## Description of the Blueberry.

The Blaeberry is a valuable fruit, and is a reliable fruit to grow in our northern States where the more tender varieties of fruits winter-kill. It is perfectly hardy, having stood 40 degrees below zero without showing my injury to the most tender buds. It ripens in this latitude about the 1st of July, and is borne in clusters like currants; shape, round; reddish purple at first, but becomes a bluish black when fully ripened. The flavor is equal to the raspherry, a very mild, rich sub-acid, pronounced by most people delicious. It may be served with sugar and cream or cooked sance, and is splendid for winter use. The plant seems to flourish in all soils, and is a prolific hearer. It grows very stocky and makes a nice hedge. The shinning dark green leaves and the blue fruit making a pleasing contrast. The demand for the fruit is great, and usually brings 15 cents per quart. They commence bearing the first year after setting out, and yields a full crop the second and third year after setting out. They are propagated from suckers and root cuttings. The plant is about the height and size of the currant bush, and very stocky, holding the fruit well up from the ground. Plants should be set in the fall and spring, in rows two or three feet apart, and five or six feet between the rows, making a perfect hedge, and no grass or weeds should be allowed to grow between rows.

#### PRICE LIST

1 Dozen Plants by mail, 60 cents. 2 Dozen Plants by mail, \$1.00

100 Plants by Express, \$2,50 1,000 Plants by ex. or freight \$15,00

How to send money:—I would prefer to have money sent by American Express order, all sams of \$5.00 and under, cost only 5 cents, and if order is lost, money will be promptly refunded to sender. If not convenient to obtain express order, money can be sent by registered letter or post office money order or po-tal note, drawn on Portland, Wich. Postgore temper will not be convenient to the c Mich. Postage stamps will not be accepted only from our customers that cannot obtain an express order—only those of one cent denomination wanted.

Plants are carefully packed in damp moss and delivered to express or freight office, Plants are carefully partial of the Plants are carefully partial of the Plants of the Plants of the Plants are carefully partial of the Pl

### FANCHER CREEK NURSERY, FRESNO, CAL.,

OFFERS AN IMMENSE STOCK OF

### Fruit Trees, Grapevines and Ornamental Trees, SPECIALTIES:

White Adriatio Fig, Ten Tested Varieties of Table Figs, Olives Pomegranates, and also a Fine Collection of Palms, Roses and Oleanders.

A five-pound box of White Adriatic Figs sent by express to any address on receipt of \$1 50. Send for Fall Catalogue and address all letters to

### F. ROEDING, PROPRIETOR, FRESNO, CAL.

### AMERICAN PROGRESS.

The following statistics, according to the Philadelphia Commercial List, show the growth of the country since the year 1860.

Twenty-three years ago we were 30,000,000 of people; now we are over 50,000,000.

Then we had 141 cities and towns of over 8,000 inhabitants, now we have 286 of such cities and towns. Then the total populstion of our cities was 5,000,000, now it is about 12,000,000.

Our coal mines then produced 14,000,000 much.

The iron product amounted to 900,000 tons of ore; to-day it foots up over 8,000,-

In 1860 our metal industries employed industry. 53,000 hands consumed \$100,000,000 worth of material, and turned out about \$180,000,-000 in annual products.

To-day these same industries employ 300,000 hands consume \$380,000,000 of material, and their annual product amounts to \$660,000,000.

In 1860 the wood industries employed 130,000 persons; to-day they employ 340,000, while the value of their annual product has trebled.

The woolen industry employed 60,000 persons then, and now employs 160,000, while our home mills, which produced goods of the value of \$80,000,000 in 1860. now turn out an annual product worth \$270,000,000.

Finally, there is cotton. In 1860 we imported 227,000,000 yards of cotton goods; in 1881 we only imported 70,000,000.

In the meantime the number of hands employed in American cotton mills has increased to 200,000, and we export over 150,000,000 yards of cotton goods a year, instead of importing 227,000,000 yards as we used to do.

The silk industry employed 5,000 persors; now it employs about 35,000, seven times as many.

We import no more silk goods now than we did in 1860, but our own mills, which produced goods of the value of \$6,000,000 tons now 85,000,000 tons, or six times as then, now turn out a product of over \$40,000,000.

In 1860, 12,000 persons were employed in American pottery and stoneware works; 000 tons a year, almost a nine-fold increase. to-day shout 36,000 are employed in this

> The chemical industry which employed 6,000 persons then, now employs 30,000,000.

> In the meantione we have nearly five times as many miles of railways and double the number of farms, and the yielding more than double the number of bashels of

> In the production of sheep we had 22,000,000 of them in 1860, to-day we have over 40,000,000 of them; and whereas we then produced in this country 60,000,000 pounds of wool, now we produce 240,000,000 pounds.

> Finally, the total of our exports has doubled. In 1860 it stood at \$400,000,000, and now it stands at about \$900,000,600.

SEND the "MERCHANT" to your friends

### OLIVE RANCH OF 44S ACRES.

Or 240 acres in one place and 208 in the 11,000 olives planted, and commence to Wils Hat a bargain.

For particulars apply to

W. A. HAYNE, Jr., SANTA BARBARA,

### FARM FOR SALE.

Two hundred acres in Sonoma County, other. Sold together or apart, having ten minutes drive from railroad station, Forty acres planted in the finest variety of vines. The balance rich river bottom, and bear in 1887. Fully equipped with builds rolling land capable of the highest cultivaings, agricultural tools, here s, etc. Sixty tion. Several never failing springs and tons of bay an I plenty of grain; fine stream plenty of oak and redwood timb i on the of water. Title perfect. Situated in Santa property. Good house, large baro, and out baildings. Scenery, climate and roads Barbara county, near Lis Olives depit, unexcell d. Good asking and builting in the neighborhood all the year round. One f the most elegant and profitable suburban homes in Northern California,

Inquire of "W. H.," office of the San CAL. Francisco MERCHANT.

460 ACRES

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NILES, ALAMEDA COUNTY, CAL.

### LARGEST STOCK ON THE PACIFIC COAST

Fruit Trees, Olives, Oranges and Lemons, Nut Trees, Wine and Table Grapes, Berry Plants, Shade Trees, Evergreens, Shrubs, Roses, Etc., Etc., Etc.

FOR COMPLETE LIST, SEND FOR OUR NEW CATALOGUE,

CALIFORNIA NURSERY CO. JOHN ROCK, Manager. . . Niles, Alameda County, Cal.



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Wines Stored and Loans Negotiated on Pure Sound Wines Only. A. PELLET of St. Hylena will superintend the car ful treatment of the Worst storel, and will cates on majority of their a mainteness. In M. CASTILLA, Secretary WAREHUVINES - Foreity ugar reduces, Eighth and Branan St. OFFICE 2003 Early St.

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ALL COODS PACKED AND SHIPPED FREE.

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### OF SAN FRANCISCO, CAL.

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# JOHNSON-LOCKE MERCANTILE COMPANY,

COMMISSION MERCHANTS. SAN FRANCISCO.

### Sole Agents Pacific Coast.

Royal Baking Powder.

Kingsford's Oswego Starch,

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We will offer a full line of other Grocers' articles shortly.

# 300,000 FRUIT TREES.

(ESTAPLISHED 1852)

We offer for the season of 1555-50 a large and very complete assortment of FRUIT TREES grown absolutely without irrigation.

Also Ornamental and Shade Trees, Nut Trees, Oran, and Le on Trees, Small Fruits, Grape Vine Evergreens, Hodge Plante, v ru +, R \*cs, Bu , vecds, et , etc.

LARGE STOCK OF OLIVE TREES, ALL SIZES, JAPANESE TREES AND SHRUBS IN GREAT VARIETY. torrespondence Respectfully Solicited

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SUBSCRIBE FOR THE SAN FRANCISCO MERCHANT

SAN FRANCISCO,

#### PACKING RAISINS.

What May Be Seen In a Packing-House.

The Southern Californian, in an interesting article on this subject, says: A visit to a raisin packing house at this season is very interesting, and much can be learned in a short time with reference to what is already a most important industry and is destined to become of still greater importance as time goes on. When the production of raisins was first demonstrated to be a success it was customary for each owner of a vineyard to undertake the entire care of his crop-picking, caring, packing and marketing. But it did not require many years experience to show that this method was attended by so many objectionable features that a radical change was necessary. Principal among the objections was the lack of uniformity in grading the fruit, so that in purchasing a certain brand no one had any accurity that the same quality would obtain throughout. Then there was great trouble in marketing the fruit. Each producer sent his crop to a commission merchant, In the rivalry of trade there was a great deal of nunccessary cutting of prices, and in many cases producers were so slow in receiving returns that they became almost discouraged. It is a fact that so great did this evil become that in some instances a aecond season's crop was well under way before the returns for the preceding season had been received.

But with the advent of the professional packers all this was changed. The producers contracted to deliver their fruit "in the sweat box"-that is, in a condition to be packed at once. There was no trouble about returns, for the producer received cash apon delivery. The packers adopted certain brands for the different grades, which were rigidly adhered to, so that a purchaser having once made a purchase of a thousand boxes of a particular brand was perfectly safe in ordering a thousand more, secure in the certainty of getting exactly the same quality of fruit.

A packing-house when raisins are being handled is a busy scene. The raisius are all delivered at the scales in sweat-boxes, holding 150 pounds or thereabouts. Long and broad tables reach the length of the building, by which stand or sit the packers, who are mostly women. The swent-boxes are dumped upon these tables, and with nimble fingers the perfect bunches of fruit are sorted out for packing, while the loose raisins and stems with only a small quantity of fruit thereon, are put to one side. The raisins are carefully weighed, five pounds at a time, as each twenty-pound box is made up of four separate layers, each weighing five pounds. The boxes are packed bottom upwards; that is, a number of fine banches are first laid into the box, with the stems upwards. The remainder of the layer is put in indiscriminately, and so on until the box is filled. When this is done the lid of the box is sailed in place, when the package is reversed and what was the bottom becomes the top. This insures the top layer being well pressed out so as te present a fine appearance when the box is opened.

But only a small proportion of the entire crop is packed on the bunch in this way. By far the greater share is put up loose. How to handle this fruit properly and remove the superfluous stalks and stems was for a long time a problem that received much attention, But finally an inventive ered richer in saccharine qualities than that

genius hit upon a plan for cleaning the fruit, which is now generally followed in all the raisin districts. The machine consists of two cylinders made of wire cloth having a mesh just small enough to prevent the raisins from passing through. One of these cylinders is stationary, but the other revolves on its axis inside the first, from which it is separated by a space of perhaps half an inch. These cylinders are hung in a frame, one cud being lower than the other, and on top of them is a feedboard. The stationary cylinder has an opening about a foot square on its upper side and there is an opening in the feedhoard to correspond. Into this opening the raisins are fed, while the cylinder is turned steadily by hand or steam power. The fruit passes between the two cylinders and the stems and stulks are thoroughly separated from it. The fruit passes through the lower end of the cylinder and falls into a box placed to receive it. The raisins are then fed through an ordinary fanning mill with two slides, by which all the stems are thrown to one side and the cleansed fruit is then ready for packing. When properly handled the boxes of loose raisins look very tempting and bring a good price.

When it is desired to put an extra finish on the raisins an apparatus is used by which the top layer in each box is laid in uniform rows of large and equal-sized fruit, which is flattened out so as to make it look as well as possible. This makes the boxes look almost too good to use for anything but show-and that, indeed, is the main use to which those are put which are handled so carefully and expensively.

Every raisin grower, especially those of little experience, should pay a visit to a packing house and examine the raisins as they come in from different vineyards. He will have to be the possessor of a vast amount of experience if he does not learn some valuable lessons. Here, for instance, is a lot of fruit which is little better than trash. It has not been dried suffieiently, has been carelessly handled, and the chances are will not sell for any more than ordinary dried grapes, if for as much. By the side of these half-dried raisins is a lot that have been dried until the juice is all evaporated and they rattle like so much gravel. These will have to be sprinkled and allowed to stand for awhile before they can be packed. Here is another lot which was not protected from the dust in hauling, and as a consequence they are dirty and gritty, and while first-class in other respects, still they will not grade nor sell as well as if the small care of covering them when hanling had been taken. The fact is, the raisin business is one of detail. Each little important point must be borne in mind and receive the requisite attention, The greatest care may be taken, but if one little precaution is neglected, all the previous diligence will be of little avail. And nowhere can the impurtance of care be learned so well as by a visit to the packing-

### SORGHUM SUGAR.

There seems to be a great diversity of opinion in regard to the manufacture of sorghum sugar, says the Grocers' Criterion, some people claiming that it cannot be made profitable, others that there is money in it. Experiments have thus far been successful in everything but from a financial standpoint. Perhaps some new process may be invented, or some cane discov

which has been used, that will enable producers to make it at a cust that will be satisfactory to them.

The quality of sugar made from sorghum a excellent. Some time since a gentleman connected with the plant at Sterling, Kaa., sent us a tub of granulated sugar which we found to be excellent. It was very pleasant to the tasts, being sweeter and more palatable than the sugar that comes from the Eastern refineries. It made a clear and delicious syrup, which was much relished upon our table by our own family. seems to be nothing in it wanting to give satisfaction for all domestic purpose With it griddle cakes are very palatable, and for piea it proved to be very satisfactory. We can, therefore, very warmly rec ommend it on its merits as sugar, and we ses no reason, except that of expense to manufacture, to prevent it being largely used throughout the country in preference to the imported article, as American methods of manufacture are known to be more cleanly than those of Demerara or of the West India Islands, where the product is principally made by Negroes and Coolies. The first plant of any size in the State of Kansas to engage in the manufacture of syrup and sugar was at Sterling, from which factory the samples came to which we have referred. This was along in 1881. Since then a considerable quantity of sorghum has been made at this point, and recently the government contributed \$100,-000 to making further improvements and experiments. The plant is worked on what is commonly known as the diffusion procesa of manufacture. It consists of a battery of twelve cells ran by a 25-horse power engine and a large steam pump. About 2,000 gallons of syrup a day can be manufactured with its present facilities. We hope to see the pruduction of sorghum sugar a success, though it is claimed by some of the government experimenters, in their recent report, that it cannot be made at a profit so as to compete with the common cane syrup. Perhaps, however, the greed of the sugar trust will give sorghum a chante, as prices advance it will give a large profit to those who are engaged in the manufacture. Some sections of Kansas are particularly well adapted to the growth of sugar cane, and could the manufacture of sorghum augar be made really profitable it would add millions to the sgricultural interests in that section.

### THE CHAMPAGNE SUPPLY.

The quantity of wine shipped or sent off from Rheims and Epernay is almost incredible, says the London Times. We hear a great deal of nonsense on this point. We are gravely told that more champagne is drunk in Russia alone than all the vine yards in France put together could supply -the fact being that it is very difficult to smuggle champagne into Russia, that every bottle pays a duty of four francs to the Russian Government, and so the precise number of bottles imported is known, and the quantity is a mere fraction of what is sent from the district. England and America are much larger consumers than Russia; the home consumption in France is large, and so is the export to Germany, Italy, India and the colonies. But the supply is equal to even larger demand. The average export from one house at Rheims, and of high-class wines alone, averages 2,000,000 bottles. No other house may have quite so large a business as this, but there are many other well-known fold in value,

houses where the exports are very large, and it is a matter not of guess work, but of careful calculation, founded upon official returns and the collection of revenue, upon the manufacture of bottles, the supply of corks, railway returns, and similar facts, by which a tolerably close approximation to the truth may be ascertained, when it is believed that at least 20,000,000 bottles are now exported or sent from the champague district fm' nome consumption every year. The quantity has fully doubled in the last thirty years, or from 10,472.049 bottles in 1858-9 to 20,334,324 bottles in 1887-8, the exports having been 17,257,684, and the home consumption 3,676,631. These are the statistics furnished by the Rueims chamber of commerce.

When the visitor walks around one of the vineyards which cover the slopes of the hills along the banks of the Msrne, and is told that the land varies in value from 500 pounds up to 1,200 pounds an acre, that the expenses of manuring and coltivating on a yearly average amount to 35 to 45 pounds sterling; that in some years the crops are seanty or poor; that only about once in five years is the crop full and fine, and then when one reflects upon the cost of burrowing out the cellars from the solid chalk, and of the casks and vats, of the bottles, corks, and wire, of the labor in the bottling and disgorging, of the loss by bursting of bottles, of the loss of interes on capital while the wine is maturing, one wonders not that good champagne, afte paying duty and carriage to England, should cost ten or twelve schillings a bottle, bu that it should have a profit to the produce even at that price. And when it is known that a really good, pure wine-not of . choice or fanciful vintage and of the branof a well-known or first-classs house, but real, genuine, wholesome, pleasant winecan be supplied at a profit from Eperna and bought in London for half a crown bottle, even now that the additional five shillings is paid upon imported champague one is lost in astonishment as to how it ca be done. Some people say it cannot t done as such chesp stuff must be a sort ginger beer or zoedone. But a visit to th champagne district dispels the doubt.

### A COLONY SWINDLE.

The Chicago Tribune publishes an accou of the formation and development of wh is known there as the Chicago-Californ Park Colony. It alleges in substance th R. R. Porter, a contractor and builde originated it. He visited California a negotiated with W. B. Hayford and Manri Lobner, real estate agents at Colfax, a seemred un option on 3000 acres of la near that place. This was platted in town lots at \$50 to \$75 each, and a property at \$75. The situation, clima etc., were glowingly described, and abon hundred people were induced to buy, abo \$30,000 each being realized. A number investors claim that they have been una to secure abstracts of title to their p chases, and it appears now that land in immediate neighborhood is selling for au acre. In the meantime, nobody see to know where Portes is.

This, the Southern Californian se should not be confounded with the Chic Colony in San Bernardino valley, which been a success from the very start. Th who bought land there have had pleasure of seeing it advance at least fe

### FRUIT REFRIGERATOR HOUSES.

A recent careful examination of the principal fruit refrigerating houses along the Hadson river-writes a correspondent in the American Agriculturist-has mad it appar nt that whatever system of r frigeration is us d, the most important requisite in all fruit houses'is the proper care at the fruit itself, and the julic' us regulation of the temp rature. The "Gerald" plau, which is but a slight modification from that of meat refrigerators in use for many years, is most frequently adopted. Its principal features consist of an ice-box arranged above, in the center, and along the entire length of the fruit-room below. The ice-box. which is usually four feet wide, has on one side an opening in its bottom. This opening is four or ave inch s wile, and extents down through the door. A said door in the opposite side of the ceiling of the store room allows the warm air to rise through a tight passage and over a slatted arrangement containing the ice in the b x. Thus is created a current of air fr in the room below, where the fruit is stored, up to and over the ice. These hous shave soveral rooms with ice-boxes arranged ov reach. and the ice-house is in one end of the building convenient to the ice-boxes. The store-rooms are made at any desirable hight, generally from eight to twelve feet. In most houses the partitions are filled with sawdust, and in a few instances building paper is used to make air-tight apartments.

The contents of many of these hous s have been almost a total loss, while the owners of other houses constructed after the same plan say that, with proper care, they pay. A year ago last fall the contents of one of the houses were so much damaged that Concord grapes did not sell for more than one cent per pound, while this year, in the same house, but with more care in its management, the storage was saved But the most important point to be considered is that of grapes bringing three and a half to four cents a pound at the time of hervesting, we cannot see what profit there is in six cents after being stored. If we calculate the cost of the house, ice and other apportenances, and the labor of overhauling all the fruit and packing it over, together with the waste-sud this is condoubtful whether two or two and a half cents extra will warrant the expenditure. if a considerable quantity of grapes is stored, it makes the market better for those who sell as soon as the crop is gathered Pears keep generally well in these houses. and can be kept with profit. Bartletts w re sold, during the holidays, at from two dollars and a half to four dollars a backet. brought from seventy-five cents to a dollar kept longer than the middle of December, as after that time they do not command prices commensurate with the waste.

### PRESERVING GRAPES.

Having provided a number of crates, the last by no means be rubbed off, as it pro- dustry .- America i Groom, New York.

tects the fruit from the sir. A cluster being RORTICULTURE AS AN INDUSTRY. chipped from the vine, I lay it carefully in a corner of the crate, then another by its si le, and so on till the bottom is covered. An ther layer is placed on the bottom layer, th n an ther over that and so on nutil th box is full-say, four or five layers deep. I lay the crates out doors in a shelt red place until the stems are shriveled wh n l plac them in the cellar.

My c lar is an ordinary cellar-no hatter than the generality of cellars. used to be very wet, the water standing in it for som . time at once in Fall and Winter, but, having been drained, it is now dry, and has been for ten or twelve y are. F rmerly, both grapes and apples tr z in it every wiater, yet still they kept in very good condition nutil Ap.il, if left undisturbed until slowly and perfactly thawel out. I have had them frozen three times during a winter, and yet a grat ir portion came cut good in the Spring. The best conditions for keeping th grape, and the same of apple, is to have the c flar as cold as it can be, yet not freez, and quite damp. Since I have drained the cellar it is quite dry, and neither apples nor grapes keep so plump as before, though they are just as sweet, At any rate, our folks and friends manage to worry them down.

The variety of grape which keeps best with me is the Isabella. The Diana keeps well until mid-winter, but it then begins to rot, and by March is nearly worthless. I have not been able to preserve the Cone rd in good condition later than December 1st. Clinton keep well, and is good for pies all Winter .-- Ex.

#### CALIFORNIA RAISINA AMERAD AGAIN

Stepping into a brokers's office we found on exhibition samples of London lavers and loose Muscatel, three-crown raisins, packed by A. B. Butler, Fresno, California. They, with samples from other vineyards, show a very decided advance over last season's fruit, giving evidence that packers have much improved their knowledge of curing. The Fresno fruit is tender, in this respect far ahead of last year's pack, as is siderable even in the best honses-it is color. It can no longer be charged that California raisins have not the "bloom" that characterizes Mulaga raisins. There is this compensation, however, that there is excellent. The packers of California deserve great praise for the persistent manuer in which they have fought to place their product alongside of Malaga fruit, and, having reached that point, for taking fresh courage and deciding to make Califoruia raisus grade above like marks of Malaga. And this year's product shows they while in their regular season they only have done that. We requested one of the oldest, most experienced and largest handand a half. Concord grapes should not be lers of raisins in this market to give his opinion of the three-crown loose California raisins before us. He said : "They are extra goods and equal to four-crown graphically considered, is against us, I ex-Malaga raisins. Well done, California ! bottoms and sides of which are mad of You are fast driving the raisin growers of tre fully ripe, and clip the stems of each and turn more of their grapes into wine.

From the new geographical and climatic map of Calif ruia, complied by the Stat Board of Trade, we extract the following on the subject of horticulture:

Horticulture is rapid y bec ming the foremost industry of the state. To her short history California has achieved the first place among her sister states in the pr duction of wheat, barley, wool, wine, g ld and quicksilver, but fruit gr wing is fast taking precedence of any and p thaps all in tree and vine planting were mal aroun l the old missions in the early days of the Spanish occupation; and although those experiments extend I down through th agricultual ear of the Am rican oc upati n for a third of a century: the impulse which has produced the present marvel us d v 1opment of fruit-growing was felt only upon the completion of the first transcontinental railway, less than twenty yers ago. Since that time, and especially within the last ten years, the true area of California tree and vine planting has occur d. There are now in the State 12,000,000 fruit trees and more than 250,000 acres of grape vines. Fruits have been shipped to eastern markets in ten years; but it has only been within the past three seasons that the transportation and marketing of our fruits east have been systematized. During the season of 1557 40,000,000 pounds of green fruit were shipped east, and found a remunerative market almost everywhere in that great and populous country extending from the enst-ru slope of the Sierra Nevada mountains to the Atlantic coast: 50,000,000 pounds were consumed by our canneries, and 51,000,000 pounds were dried, and it is believed that fully as much more fruit was consumed at home by the 1,250,000 people of this state.

In the northern and eastern states of the union with a population of 40,000,000 people, the fruit season lasts less than three months; while in California it commences with April and continues to the end of November; and it follows that we can feed those 40,000,000 people with fresh fruit for four months when they have none of their own production.

### GRAPES IN COLD STORAGE.

Down in San Diego they are making use of the cold-storage process in order to preserve grapes until such time as they may be shipped East, so as to take advantage of the high prices that are sore to prevail about the holitay season and later, when fresh fruits of any kind are seare . The feasibility of preserving grap's in this manner has been demonstrated so often that it has long since passed from the domain of experiment into that of certainty, And, by the way, will this not opin np a way for the disposal of the surplus wine grapes which have caused so much trouble this year? Take the Burger, for instance, Malaga fruit. Although the market, geo- It is a beautifully translucent white grape with very thin skin and of exceptional pect to sell this year more California than sweetness. The clusters, too, are a marvel, being often a foot or more in length, and the fruit being so soli I and thickly claslaths, and of the capacity of fifty pounds, Spain out of the Amercian market, having tered as to be almost a solid mass. There I select a warm, dry day, when the grapes already forced them to diminish shipments is no handsomer grape grown, and yet \$10 a ton, or half a cent a round, was as much cluster with a pair of shears, being careful Every true American rejoices over every as could be got for them. Put th m in cold o handle the fruit only by the stems, if new industry planted on this side of the storage and ship them East in December, ossible, without touching a grape. The water, and none has a more creditable his- and they would sell as realily for 25 or 30 sloom of the grape, which is a fine wax, tory than that of the California raisin in cents a pound, or even more—as do the imported Malagas. And this is not the only thour,

one of the s -calle I wine varieties which is als sup ri r for table ass. The cost of 1 atting the fruit through cold storage is so small, by the sid of the price that they would auga stionably bring, that it seems strang this m the l of disposal has not b en saggest I and put in practice before.

### CLUTIVATE THE BECEBERRY.

They are the only ones of the popular h rries, says a contemporary, that have not of those industries. Although experiments been improved by cultivation. Middleag I m n can recall the time when the strawberry and backb rry were rather poor, comm a-place trait, but they have been cultivate I, grown from seed, and the realt is the touthsome berries which now alora our tables. But the huckleberry we eat now is the same which tickled the palates of our great-groudfathers. Word has g n forth to improve this b rry; to grow it in grr l us from seed, and select the variety which gives the best result. It is not generally known, but nearly all our elible plants and fruits were originally weeds, or of so inferior kind as to be scare ly fit for human use. But for count-I as generations man has been improving greater or smaller quantities for the last his environment, but more especially the grains and fruits upon which he now lives. The human palate itself must have been gr atly improved in sensibility, owing to the diff rence between what fruits and v getables were, and what they are. There are those who think that this process is to good, and that other weeds will be torned into us fal plants, and that, by scientific meth 1s, the quantity of food will, at length, be so great that no human being will ever die of starvation.

### Don't Dig Up the Vines.

There are reports of vineyardists dig. ging up their grapevines, observes the Greeer and Country Merchant, with the view of returning to grain-farming, believing the latter more profitable. Within the past ten years grain-growing has been abandoned by many farmers as wholly nnprofitable, and there are many at present engag d in growing barley who assert, with good r ason, that they cannot make expenses. Wine graps are ruling low this seas in, but it does not follow that this will always be the case. It is fully as probable the demand for grapes will increase sufficient to afford a market for the iner as I production, as to suppose that the growing of cereals cannot be overdone. It on fourth of the vineyards of the State w re turned into grain-fields there is little doubt many producers, in a short time, would have occasion to regret the change.

RECENT investigations made by John Aitken show that the cotside air after a wet night contained 521,000 dust particles to the cubic inch, out- It air in fair weather contained 2,119,0 m particles in the same apac, showing that rain is a great porifier of the atmosphere. The air of a room was found to contain 30,315,000 particles in the sam space, that near the ceiling contain 183,345,000 particles to the cubic inch. The air collected over a Bunsen dame contained no less than 483,000,000 particles to the cubic inch. The numbers for a room were got with gas burning in the room and at a height of four feet from the



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The grape growers of Etiwania are receiving \$150 an acre for their Muscat grapes on six-year-old vines. Of this at least \$130 is clear profit.

As high as fifty pounds of grapes are being picked from each vine in some of the older Riverside vineyards. This is equivalent to seventeen tons to the acre.

A Riverside raisin-grape grower has sold his crop of fruit on the vines for the round sum of \$10,000. Of this sum more than nine-tenths is clear profit.

Raisin-grape growers in Eastberne valley are realizing from \$100 to \$200 an acre this year from their vineyards.

Such are some of the items, all well authenticated, which are being published concerning one of the foremost industries of this county. Rightly enough San Bernardino claims to be the piencer in the productions of raisins in California. It is now eighteen years since the pioneers who had the hardihood to settle upon the barren plains of Riverside began planting vineyards of the raisin grape. The first efforts at producing raisins were far from satisfactory. Everything had to be learned from experience, and many of the lessons were dearly bought. Some became discouraged and dug up their vines, but the greater number persevered, and the result is seen to-day in the production of hundreds of thousands of boxes annually of as fine raisins as are found in the markets of the world.

The example set in San Bernardino county has been followed elsewhere, but Riverside can claim the proud distinction of being the first place to demonstrate that California could produce as fine raisins as

All over the county may now be found raisin vineyards which are paying their owners good profits, even at the comparatively low prices now prevalent. Indeed, next to the orange, the raisin is the best paying branch of horticulture that can be

There are still many thousands of acres of good raisin land to be had in this valley at comparatively low prices, and some day it is not unreasonable to expect that the raisin product of this county will be a hundred-fold greater than it now is.

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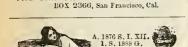
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VOL. XXI, NO. 5.

### SAN FRANCISCO, NOVEMBER 23, 1888.

### PRICE 15 CENTS

### GRAFTING TO MUSCATS.

Prominent Grape Gravers of talifornia, Who Have Tested this Method, Report Their Experience.

The following circular and questions explain the objects of this publication:

STATE OF CALIFORNIA, BOARD OF STATE VITICULTURAL COMMISSIONERS, OFFICE OF THE CHIEF EXECUTIVE VITICULTURAL OFFICES.

San Francisco, August 15, 1888.

Dear Sir: During the next spring, many grape growers who have in the past cultivated grapes for wine making will graft their vines into Muscats for raisin-making purposes. From those who will make this change there have come to me numerous inomiries as to the suitability of ordinary varieties for such grafting.

The experiences of the past on the subject are somewhat conflicting; but, knowing there have been trials enough already made with this grafting to determine its value, if the results were but known, I am endeavoring to collect them for the instruction of the public.

Believing you may be able to assist me with your knowledge or experience, I have taken the liberty of addressing to you the following questions, which you will please answer by mail at your earliest covenience.

If unable to answer these questions from your own experience, will you kindly note, under the head of "Remarks," whatever information you may have received from others regarding the success of grafting Museuts on to other stocks.

Very Respectfully,

J. H. WHEELER,

Chief Executive Viticultural Officer.

The questions were as follows

- 1. Have you ever grafted Muscats into roots of other varieties; and if so, what were the other varieties?
- 2. When was your grafting done what year and mouth?
- 3. About what precentage of the scions crew?
- 4. Do they now appear as healthy as do Muscats on their own roots?
- Does the fruit set well and ripen equal to that of Muscuts on their own roots!
- 6. Would your experience lead you to \$,000 vin s, part to White Counth.

advise others to employ this method in plant Museat cuttings?

7. Remarks.

A considerable number of the vinegrowers addressed were anable to report any experionce; many, however, were kind enough to write me their opinions for which 1 desire to publicly express thanks,

I have selected from the many letters received, the following, which have been condens d as much as seems consistent with clear expression,

To indicate the questions above given, their numbers are employed.

J. Knauth, Sucramento-7. Would prefer grafting on most any kind of robust grower, if Muscats are desired.

H. G. Ellsworth, Niles - 1. Varying throughout twenty years past. Good results generally, but followed by knotty accrutions on roots. 4. A small per cent. 5. Think it is not so good. 6. Would not graft old stock; would graft stock one, two or three years old.

J. C. Merithew, Cupertino- 1. Grafted one hundred Muscats onto Trosseau, 2. March, 1880. 3. Ninety-time per cent. t, lu good order, 5. The same, 6. I would advise grafting.

W. E. Cole, Brooks, Yolo Co-1. Grafted 300 Mission into Muscats, 2, 1878. Eighty-five per cent, 4. Produce better wood than Muscat roots.
 They are the heaviest bearing Muscats I have ever seen, 6, Yes. 7. The Mission is preferred for this grafting because it best stands the summer heat and is a strong

John T Day r, to perti > - 1. Grafted on Charbono. 2. March, 1888. 3. Ninety- crop next year, and fully as good as on its nine per cent. 1. They look perfectly well. 5. Cannot yet determine. 6, 1 should graft by all means. 7. I think you can graft any one is it on another, and if the work is well done, your grafts will grow perfectly.

J. A. Bres, Och is 1. No, we never have, but we have grafted other varieties on Museats, which did not prove a desired success. Would advise grafting Muscats onto other stocks.

W. A. Sanders, Sanders, Fres. 1 (1) = 1. Yes. 2. February. 3. Ninety per cent. 1 Yes. 5. Yes. 6. Yes. 7. Graft 1

Wm. V. Johnston, Autorson - 1. Yes. reference to pulling up the old vines to onto Mission, Feber Sz gos and a nameless seedling, 2. March 1, 1881, 3. Ninety per cent. 1, No. 5, No. 6, No. 7 Vines made feeble growth after first year, small bruches, much inclined to coulure and sunform. Old stimps decay and become nnhealthy; grafts strike roots.

E. W. Maslin, Surame to-1. Grafte I ten M seits on l'ilis l'alifernier roots two years old. 2. April, 1887. 3. Eighty per cent. 4. Unable to julge from experieuce. 5. Not yet old enough. 6. I should certainly graft. 7. The union is perfect grafted at surface and hilled soil about it. I prefer this to deep grafting: as, if graft fails we have still the old vine.

R. C. Ke s. Yaba City 1. Yes, onto Mission, Riesling, Hamburg, Rose of Peru and others. 2. March and April, 1857 and 1555. 3. Ninety per cent in 1557; seventyfive to eighty per cent in 1959. 4. They do on the Mission root. 5. Yes on the Mission, but not on others. 9. on Mission only. 7. Have grafted Seedless Sultana and Zante Currants on Mission and they do well. Mission does not sucker as do the others.

Robert Barton, Fresno - We have never grafted Muscats on other roots, but have noted it done in this section to a considerahle extent and upparently with success. Col. Forsythe has grafted on Zinfandel; J. W. P w on Sultana. Growth of the grafts se in to be first-class,

F. D. R sendahl, Kingsburg - 1. Have grafted Muscats onto Zinfandel. 2. February and March, 1856 7-8. 3. All grow wh n the work is well done. 4. Better and stronger than on their own roots. 5. The first year only a few bunches, but full own root, 6. "Don't jull up the old vines but have them grafted if you want a good vineyard."

Cept. I. th d St Hubert, Fresno - 1. Up n Tokay and Midvoisis. 2. January, 1854. 3. A fair average grew, 6 No.

G. W. Linderman, M. I. Yes, on Mission. 4. They do better than when gr wn on th ir own stalk. Berries go d siz and bunch s large. To rais Muse its would plant M ssi n roots and graft to

gratted Mar do to labor Szeros, 2 page soft first to 1 1

March and April, 1887. 3. Firty prent. 4. Apparently so, 5. Urnit rip no lat r this year had cons I rabe or p a m of it will not mut re. 6, If I w ull tear them out and plant Muscat roots in pr ference to suckering grafts, etc.

Thos. Rose f r A. M. W" at a W 1. It d-Grafted 100 Zinfard 1 v r to Muscats in 1887. Nin ty-right grow and this year yield d ten pounds of gray s pr vin

C. A. Cr. sby, R' - sde-1. Yes, etc Mission and R > Peru tw nty-five times 2. January, Isso. 3. All gr v. 6. N J. F Wins, Bas Ferry - 1. Ys, u Flame Tokay and M ssi n ro ts. 2. Mar h, 1881, 3. Fifty per cent attribut grat loss to my grafting too late as sap drown I the graft. 1. They do. 5. others from cuttings I can obs rv. un difference. 6. I certainly sh d. It is I so trouble to graft, and they bear the so ad year. 7. A friend grafted Missions to Muscats fifteen years ago, and they still bear fine grapes,

sion, Rose Pern, Blk Hamburg, Zinfan lel, and Carignave. 2. February, March, April 1885-6-7. 3. In 1886, 85 precent. on 2,100 Zinfandels. In '86, 60 jer c nt. en 6 to Hamburgs. In '86, 90 per cent, on 500 Rose Peru. In '87, 60 per c nt. on 5,000 Carignave, grafted in March and April. 1. Yes: on the Hamburg and Rose Peri,-n t so well on Carignave and Zinfandel. The thriftiest growth was on the list l'ern. 5. Better on the Hamburg and R se P ra about same on Carignave, but u I so will on Zinfandel. 6. Much better to graft nuless stock is too y ang, even then it is all right on vigorous varieties,

Dr. W. S. M. r., Per . S. S. 1-1 Cou 'y. 1. Graft I M scats n Mrs n and Feber Szas s. 2. March, 187 , 1878 1884 and 1888. 3. 98 per c nt. 1 On the Missi n th y do not, on the F her Szagos they do. 5. It day not on the Mission, 6. N. 7. W n l n t cruft white varieties on purpl stock, 15 y ars ago, grafted Tok iy ato Ditch Swictwit r they grew and b re wel, lut n v r col r d as it does on its own stock, Ir whin Ir ft-d on parple vari tt s.

W. H. W. L. Dx -1. Gr ft 1 3, 11 onto Missien rosts while wir ten ritu to y ars + I. 2 M r h and April, 1877 1871 B B W = th F | 1 Have 1875 (11187), 3 7 pr | W | 1 good stand. 4. They are more thrifty, longer canes and more foliage than Muscats on their own roots. 5. Fruit sets and ripeus well and the grafte yield better crops in every respect than Muscats on their own roots. 6. Graft instead of pulling up, for if well done, the grafts will yield more second year than vines five or six years planted.

Chas. Wilkinson, Eliwanda.—1. Grafted Muscats onto Mission, Tokay, Seedless Sultana, Rose Peru, Zinfandel, Malaga. 2. March, 1887. 3. 95 per cent. 4. Grow well on all these varieties, as strong as un their own roots. 5. Bore 3 to 5 lbs. for graft this year; clusters large and good as those on 5 year old Muscats. 6. Would graft every time. 7. I have planted Peru for express purpose of grafting to Muscats.

II. Dugdale, Eticanda.—1. Yes, on Mission and Zinfandel. 2. Early in March, 1887. 3. 75 per cent. 4. More healthy, 5. Equally as well. 6. Would advise it by all means. 7. All vine grapes may be so grafted. To graft successfully, remove he earth deep ahout the stock, saw off beneath buds or sprouts; split with chisel and mallet. Scion 6 inches long, wedge-shaped to fit the split where opened. Make bark even on outside; wrap with striped cloth to keep dirt out, then fill up hole with earth

C. O. Tucker, San Diego County. - 1. Grafted onto 20 other varieties, principally Mission, Blk Hamburg, Rose Peru, S. Chasalas and Zinfandel. 2. March, 1880; March and April, 1881; April, 1882; May, 1883, and May, 1884. 3. In 1880, on Mission roots, 98 per cent.; 1881 on same, 93 per cent; 1882, on a variety of roots, 80 per cent. 1883, on same, 76 per cent; 1883, sams 81 per cent; 1884, same, 60 per cent; 4. On Mission, Rose of Peru and Black Ham. burg, yes; on other varieties except Zin. fandel, no; On Zinfandel, more healthy, but don't set fruit so well as on their own roots. 5. On Mission and Black Hamburg, fruit sets better than Muscats on their own roots; on Rose of Peru, don't set as well, and suffer from coulure; on Zinfandel, don't set well but ripen well, on other varieties, no 6. With Mission, Black Hamburg, Rose of Peru sud Zinfandel, yes; other varieties I have tried, no. 7. Prefer common cleft graft, 8 inches deep on old stocks; 2 or 3 inches on young stocks. I employ with best results a wax, 1 part beeswax, 2 parts resin, 3 parts tallow. Had most feilures where I used equal parts clay and cow-dang. Graft in cloudy weather. For scions use taterals. Would not graft on Pincon, Chasesias, Riesling, Tokay or Sauvignon. Employ no man or hillious temperament.

Oco. II. Craft, Redlands (for others)— Grafted miscellaneous varieties to Muscats; results always satisfactory.

G. F. Merriam, Escondido—1. Have grafted twenty-four vines to Muscats, viz: Rose of Peru, Biack Morocco, Mission and others. 2. March 20 to April 10, 1883.
3. All. 4. Yes. 5. Yes, so far as I see, 6. Yes. 7. Where I used common cleft graft most of scions grew, but one year I used Dr. Cougar's machine and lost over half. Do not let any one use the machine. Raisin growing in this locality is very unsatisfactory.

J. J. Stephens, Madison — 1. Yes, have grafted into Mission stock. 2. March, 1872. 3. Ninety-four per cent. 4. Yes, more vigorous. 5. A great deal hetter. 6. Yss, with us Muscats do better on Mission roots than on their own.

John Hall, Riverside—1. Yes into Mission. 2. March and April, 1879 and 1880, 3. Ninety per cent. 4. Yes. 5. Yes. 6. For u whole vineyard would advise planting Muscats, but for occasional Missions or other varieties would graft.

E. Z. Clanton, Woodland—1. Yes, onto Mission, Hamburg and Tokays. 2. December, 1886, 1887. 3. Ninety-nine per cent. 4. They look healthier. 5. Yes, 6. By all means. 7. Have had grafts bear the first year; they hear well the second year. Have had difficulty in getting cuttings to grow when old vines were pulled up; lost fifty per cent.

graft this year; clusters large and good as those on 5 year old Muscats. 6. Would graft every time. 7. I have planted Peru for express purpose of grafting to Muscats. 4. Dugdale, Etiwanda.—1. Yes, on Mission and Zinfandel. 2. Early in March, 1887. 3. 75 per cent. 4. More healthy 5. Equally as well. 6. Would advise grafting as it loses no more time than one year.

Geo. W. Applegate, Applegate—1. Grafted onto Mission roots. 2. March, 1880. 3. Used cleft graft and scarcely scored a missusing. 2. Scions to the vine. 4. Yes. 5. Yes. 6. Yes you secure by grafting an enormous growth the first year, and the second year a crop of fruit; the only difficulty is that of suckering. 7. Used cleft graft; two scious to each subject spreading the vine with a wedge to insert the scione, used clay as a mastic. Would graft any kind rather than pull them up as they bear grapes first year.

H. Goepper, Santa Ana (for his neighbors.)—Grafted onto Missions. 2. At different periods, but with hest success at time buds were about to open. 3. Eighty per cent. 6. It would.

A. J. F. Whittiouse, Fresno-1. Yes, onto Zinfandels. 2. Latter part of March, 1887 and 1888. 3. Seventy-five per cent in 1887. Forty per cent in 1888. 4. Yes. 5. Yes. 6. Yes. 7. If grafting in alkali lands would cover union with grafting wax, as I found many stumps rotten and seious dead

C. K. Kibby, Fowler Station — 1. Yes, onto Trousseau. 2. March, 1888. 3. Ninety per cent. 4. They do. 5. Not yet crop enough to tell.

Chas. McLaughlin, Fowler (per Kirby)—
1. Grafted onto Mission, Feher Szagos, Zinfandel and S. Sultanas. 2. 1887. Find Zinfandel and Feher Szagos best stock to graft on, and Muscats do better on Mission and Seedless Sultanas than they do on their own roots. If desiring a Muscat vineyard would plant strong, growing roots, and graft Muscats onto them. Other experiences in this section confirm the above.

C. O. Rust, Anaheim—1. Grafted onto 100 Zinfandel. 2. March 1882. 3. Eighty to ninety per cent. 4. Yes. 5. Yes. 6. Would advise grafting in preference to pulling up, provided the vines are not too old and in good shape.

C. M. Silva and Son, Newcastle—1. Yes, principally into Mission. 2. March, year forgotten. 3. Ninety-five per ceut. 4. Yes; if not better—growth is stronger, but soil may be better. 5. Yes. 6. Yes; if old stocks were perfectly healthy. 7. Grafted by digging down three or four inches below the surface of the ground, sawing stock square off, split it down with a chisel, ent the graft wedge shape, inserted one in small and two in old stocks, brought the soil up around them, pressing it carefully around

posed. Greatest loss was by knocking out in cultivating.

H. C. Morrell, Wrights -1. Yes; onto Feber Szagos, Miller's Burgundy, Franken and Grey Riesling. 2. February, 1875. 3. Nibety-five per cent. 4. Much more so. 5. Much better. Do not coule like Muscats on ih ir own roots. 6. Would graft on any strong grower, but not on Burgundy or Riesling, as the vine takes the habit of the old root, and the herries are then small, tough and unfit for market.

D. C. Feely, Alma — 1. On Mission, Black Hamburg and Catawba. 2. March, 1870 and 1877. 3. Ninety-five per cent. 4. Yes. 5. Can notice no difference in respect to the fruit. 6. It stocks are healthy, would graft in preference to digging up.

#### REMARKS.

I cut my scions early in January, then I dig a shallow trench on the north side of a bailding, or fence, lay my cuttings in and cover with soil to the depth of two or three inches. I sometim a cover them over with boards to prevent the rains of winter from rotting them. A good way would be to put the scions in a cellar and cover with sand The buds should he kept in a dormant statuntil the grafting is done. The best time to graft is when a flow of sap is moving to swell the buds and bring forth the leaves on the vines in early spring. This may occur earlier in some localities than in others, but as a rule March is the best time to do the work.

N. D. Harwood, (by C. A. McDongall)
Escondido — 1. Yes; on Mission,
Hamburg, Rose of Peru, Tokay
and some others. 2. February 1880, '81,
'82, 3. Ninety-five per cent. 4. Yes.
5. The size and quality of fruit is improved. 6. If roots are healthy, hy all
means graft them and seems fruit from the
start. Have tried grafting by cutting onto
side of the stump with a chisel—but the
grafts fare like the "Titman pig."

B. P. Mackoon, Et Cajon—1. Yes; Mission, Zinfandel, Blanc Etbe, Verdal, Sweetwater—first three chiefly. 2. February and March 1885–6-7-8. 3. Ninety per cent. Where great care was used all grew. 4. Yes; many of the strongest vines in the vineyard are those grafted on other roots. 5. Fruit sets equally well the first and second year of bearing the fruit ripens a little later. 6. "A thous and times, yes."

Estate Geo. A. Cowles (by B. P. Mackoon, Supt., El Cajon)—The experience on my own place answers for this as confirmed by the foreman who was on the Cowles place when the grafting was done. Where the graft did not grow or where injured by accident we have dug a little lower and cut off and grafted the old stock anew the next year with just as good results as in first grafting.

A. F. Anderson, Black's Station, Yolo Co.—1. Yes; onto Mission. 2. When buds were swelling and just before they put forth in 1873-4-5. 3. Ninety per cent. 4. I think they do. 5. Fully as well. 6. Would graft, as fruit comes two or three years sooner.

by digging down three or four inches below the surface of the ground, sawing stock square off, split it down with a chisel, cut on Mission roots. 2. Last of February the graft wedge shape, inserted one in small and two in old stocks, brought the soil up around them, pressing it carefully around the graft, allowing one hud of the scion extends to the graft, allowing one hud of the scion extends to the graft again,

T. F. Miller, El Cojon (for a neighbor)—
1. The general appearance of the grafts the first year was good, and they appear as healthy as Muscats on their uwn roots. I would graft in preference to pulling up old roots.

Wm.C. Walsh, Escondido—1. Outo Mission and Rapestris. 2. March, 1886. 3. 100 per cent. 4. Yes 5. Equally as well. 6. Would graft in ord r to secure a large grape and large buuch. 7. Have had twenty years experience in this work. I put two scions in a stock of one inch or more diameter, which is split with a chisel or sharp hatchet. I cross scions on the liber or inner bark—just the least particle—and put a piece of folded paper between the scions on the crown of the stock to keep the soil out, and if both grow, destroy the weaker scion.

J. H. Harland, Wood/and—1. Mission.
2. March, 1887. 3. Eighty per cent (grafting done by inexp rienced hands).
4. Yes, and fars better. 5. Yes. 6 Yes would graft on any strong grower to secure fruit sooner and a better stock.

H. Davenhill, Fresno—1. Have grafted Muscats onto Malagas, Feher Szagos, Mission and Rose of Pern. 2. March (early), 1887. 3. Seventy-five per cent. 4. Yes the most of them. 5. Fruit sets well, bunches good and ripens equal to Muscats on their own roots, 6. Decidedly so without any doubt. 7. The year I grafted I gathered fruit, very fine banches, mostly second crop. This year I gathered about twenty-five pounds from each vine, first crop.

Levi Chase, San Diego—1. My foreman grafted Muscats on white wine grape, name unknown. 2. March, 1888. 3. Nmety per cent. 4. They appear perfectly healthy and made this summer an extraordinary growth. 5. But few small bunches set on their this season. 6. I think it a success and shall graft more next spring. 7. The old stocks are cut off below ground, and a hole bored into it with a bit. The graft is then fitted snugly into it and covered with earth except one bud.

### CONCLUSIONS.

From the above it may be safely inferred that with the exercise of proper cars in the operations of grafting the Muscat forms no exception to the general role, viz: that the placing of any variety on a stronger root than its own will produce better results than will the same variety on its own root.

Of the total number of experiences reported above, forty-eight in all, we find but five where the writer unqualifiedly would not advise grafting other varieties to Mascats in preference to pulling up the old roots and planting anew. Four would advise grafting only under certain favorable conditions. While many of the large majority who advocate this method speak enthusiastically of their success. I should venture the opinion that, if those who might object to grafting iostead of replanting, were called upon to make cuttings or even roots grow in land which had been drawn npon for many years by old wines, they would find the undertaking far more serious than they might at first suppose. Let no person believe that the young vines will grow in the exhausted soil of an old vineyard as they would in new ground.

Many vineyardists advocate the planting of such strong growers as the Rose of Pern, for the express purpose of grafting to Muscats, and this, too, after many years of experieuce in the matter. Few would wish to Burgundies, so that the objection to them as weak stocks need not be dwelt upon. The Mission and table grapes form the favored stocks, and have afford d us the greatest number of examples, though the Zinfaudel has also proved satisfactory.

The conclusious shown in the above suswers and no comment as to the general result. They prove plainly that those who contemplate the grafting of Museuts onto wine or table graps are by wide experience safe in the undertaking.

Incident to the results here named, there California Brandy the only Genuine has appeared with these reports other important information, seen under the sixth head "Remarks,"

Grafting by machine has proved unreliable, and growers are warned against their use, notwithstanding they may, on certain occasious, have proved satisfactory when operated by their inventor, L. Chase, of San Diego, describes a method which has been before unsuccessfully employed by others, and which in the hands of his foreman has succeeded admirably; but I should caution others about adopting these novelties for work on a large scale, as a long and dear experience has proved that for general utility the wedge graft is surest and best.

Several of my correspondents have favvored me with particulars as to the method employed in their work. Several of these I have given in full-particularly if their results proved favorable, thereby coufirming their methods. For instance, see report of Wm. C. Walsh and H. Davenhill,

Many dispute the value of applying any mastic or wax to the point of union. My own experience leads me to conclude that it is wholly unnecessary. Many successes are recorded where not even clay has been nsed, simply piling up the loose dirt about the graft. If, however, auything is to be employed, clay is the best.

It may be concluded that it is safest to tie in the graft. For this purpose strips torn out of cheap cotton cloth, or raphia, which is sold by some of our seedsmen, answers the purpose,

Some of the above writers lament their loss by knocking out the graft in cultivating, etc., and by examining their work we find that they failed to tie in the scions as they should have done.

Too much emphasia cannot be given to the value of properly caring for the wood to be used for scious, which should be cuttings, or, better still, whole canes as pruned from the vine. From these the operator may in the spring cut small or large scious, long or short, wasting no buds. These should be imbedded, when taken from the vine, on the north side of some building in trenches covered well with earth. For this purpose they may be tred into bundles or left loose. Do not be afraid that they will rot. A little mould on them would prove no injury.

Where, for any cause, the grafts fail to grow the first year, experience indicates that the same subjects may be grafted again the following August, using for scions cuttings, which have been healed The following spring we may regraft with the first grafting.

If you wish to secure the full advantage of the strong plant onto which the Muscat is to be grafted, care should be taken to remove all roots proceeding from the scion.

In concluding this injury, let it be under-

ing: that has already been given to the public in a translation from the French made by me some years since, intitled: "Differeut Methods of Grafting the Vine" aud forming Appendix III., to the Report of the Chief Executive Officer. This work was copiously illustrated and copies may yet be had by applying to the Secretary of of the Board.

#### OUR NATIVE WINES.

Brand on the American Market.

Americans proverbially want the hest the earth affords, no matter where produced, It our patriotism is both, on the one hand to patronize other countries for articles which our own does not produce in equal excellence, by helping to create an American market for these articles, on the other haud, we aid in spreading throughout the world the reputation of America for taste and wealth, and so in another way austain our country. But there seems to exist what might almost be called a public hallucination with regard to this matter. Every. thing foreign, good, bad or indifferent, is engerly sought after and hungrily sunpped up, irrespective of its intriusic worth. The label "imported" throws a sort of halo round goods, or serves as a kind of magnet. The mere fact of being, or being supposed to be, foreign is often the best advertise ment that an article can have. Dealers, of turning it to their own advantage. The consequence is, the market becomes flooded with cheap and imperfect imitations of foreign wares, which are manufactured in this country, and are "imported" only in name. These seem to find as ready a sale, however as the genniue goods. The highest grade of customers, to be sure, caunot be deceived, unless, perhaps, in the case of a very limited number of "lines." The great army of purchasers, however, often choose au inferior article represented to have comfrom abroad, when, if it were acknowledged to have been produced in this country, they would have no desire for it. They often pay a higher price for a poor 'imported' than for a good confessedly native commodity. If dealers in their action are not strictly honest, they, perhaps, only follow the dictates of average human nature.

Perhaps in no instance is the public prejudice for foreign wares taken advautage of to so great an extent as in the case of wines and liquors. Here, before going further, it is well to say that every wise man must grately deprecate the abase of intoxicating beverages. It has been, and is, one of the worst curses of humanity, For all that, their beneficial medicinal, tonic and dietetic effects, produced by moderate use, must in fairness be recognized. Whether the attempts at utter prohibition have affected any gain is a question. A practical man, who sets the world as it is, and tries to make the best of it as it is, without wasting effort in atriving to turn it into something which it is not, and never will be, must favor in leaving the matter of the same chanco of success as was had at the use of intoxicating druk to the individnal conscience and reason. No suasion, either legal or moral, will ever totally banish the use of artificial stimulants in some form. If the experience of centuries goes to show that alcohol in some shape is practically a necessity to the race, is it not

monut into "the clouds" in any vain endayor no destroy that use altogether?

In the mind of those who know, there is not the slightest question that the great majority of so-called foreign wines and liquors imported from the famous wine-growing districts of Europe," as is so often imaginatively asserted of them, are neither more nor less than base conterfelts. A very little consideration will convince even the ordinary reader, who has given no special ntteution to the subject, that this must be so, Take, for instance, the one case of what is so lavishly sold in this country under the name of champagne. Wherever liquors are on sale here, be it in palutial hotels, backcounty tarverns, or the cheapest of drinking saloons, one is quite certain to be able to find a bottle or something which passes for champagne. In point of fact, France does not turn out such an amount of genuine champague in years, and it has to supply other countries beside this. As for 'eoguac, '' so-called, it can be bought anywhere from New Hampshire to Arizona; yet France no louger produces coguac. Those who take such supreme satisfaction over their "(best Freuch) brandy and water," the following facts must interest: It takes slightly upward of five gallous of wine (of the proper alcohlic standard) to distill one gallon of braudy, and in France one gallon of wine (of the requisite standard) is worth more than one-fifth of a gallon of brandy. Now, it is perfectly clear that nobody in France is going to be so idiotic as to pay course, note this fact, and are not slow in distillation expenses in addition to the cost of the wine, and then be left with an article on his hands which is worth in the market less than the wine was in the first place. States a popular journal: A wealthy Ameri can, whose father was a Frenchman, and who has for 25 years resided by turns in France and this country, recently said: "No gennine brandy is now made in France. lu the famous braudy districts the grape vinea have all been destroyed by insects, and the land is planted with beets, potatoes, and such vegetables as will producet he greatest amount of spirits. This is not guess work, for I came from there not 30 day ago, and I know it because I saw it." There is no difficult in obtaining in this country what purports to be specimens of brauds of foreign wines and liquors, which are produced ouly in very small amounts, and are exclusively controlled by European magnates, and of which, practically, a bottle never lands on our shores.

This fact is recommended to the attention of those who fancy they are drinking Chau. teau Lafitte Johannisberger, Clos Vaugeot, etc. If manufacturers and dealers pretend to furnish these beverages, while in reality what they furnish are simply imitations and adulterations, it can only because of a determined and mistaken public demand for them. The public want, or think they want, imported goods. These often it is impossible to obtain, so that to seem, at least, to supply the demand, manufacturers and dealers take a native product as a base, and "fix" or "doctor" it to imitate the imported article, putting a foreign label on the bottle, cheating the purchaser ioto believing it something which it is not, and selling it at a grately advanced price,

The journal quoted, the Annals of Hygiene, has recently obtained the receipt book of a "manufacturer" who is rated in the directory as an "importer," Of the stood that this work is not offered as one wiser to direct our efforts toward securing a brandy" that sells at wholesale for \$2.50 have done so you will have no superiors."

graft such varieties as Rieslings, Pinots, or furnishing complete instructions for graft- temperate and reasonable use of it, than to per gallon: Clear California bran by, proof spirits No. 2. tartaric acid, print pric violegar, tannin, sherry, oak spirits. The mixtared is colored to suit. For a 'Fron h brandy" selling for \$3.20 per gall a these are the ingredients. California brandy of two grades, the one cheap and the other yet cheaper, proof spirits No. 1, syrup, ik apirits, prune juice, orange peel spirits, putyrie ether, tannin, tartaric sei l, or livary rum, glycerine and coloring mutt r.

Physicians, in ordering the strongest stimulants for their patients, have as a rule expressed a pref reach for brandy, and i it a few of them jusist up in French I ranly, for the reason that they believe it to ! the purest. Certainly, ignorance of the true nature of the latter will be their own exc -for recommending it agun. Here is another formula for "French brauly" which sells for \$4.25 per gallon at wholesale Freuch brandy, tanuiu, pruue juice, glycerine, citric acid, syrup, butyric ether, ac-tic acid, spirits. Here French brandy, in preportion of about one-third, is us d as the base. More of the pure article is added to make still a higher cost article. How whiskey is made is interesting. The "manufactorer" uses the following ingredients: Proof spirits No. 2, high wine water, tanuin, oil of pimento, oak spirits, butyric ether, bead oil to suit. Beside the ingredients given in the foregoing formula, the manufacturer occasionally uses sulphuric acid, and very often he adds to his "compounds" one or more of the following: Oil of almonds, oil of mace, hops, quassin, snake root, flaxseed, flour, oatm al, houry or rice flour. To age a liquor, the means said to be employed is slippery elm or bitter almonds, while to impart a roughness and astrigency, beside tanuin, quassis and oak, alum and catechu are as d. For coloring purposes, red sanders wood, oak bark, logwood, saffron, indigo, cochineal, Brazil wood, red beet and alkanet wood are called into service. Some of these ingredients are practically harmless; others certainly are not. Such mixtures one knowingly would not care to take into his stomach if he had any respect for that organ; much less would be administer them to his child in sickness, and "hauging between life and death."

There are, in these facts, the best arguments in favor of temperance. But tectot ilism for the world seems afar off, and nutil it is possible, charity prompts that the ignorant be taught how to escape as much as they can the dangers which ever attend the habit of tippling. Children must not suffer for the sins of parents. Among the poorer classes, either brandy or whiskey is frequently administered for infantile courplaints. The best is hable to do har n; the vile "compounds" are certain to prove injurious.

Those who will use alcoholic stimulants will do well to follow this advice: Drink American wines and liquors. There is no louger any need for foreign ones with unpronounceable names. Right here at hom are native beverages as good as the best, at much lower prices. It is a fact that there is being produced in this country to-day, at most reasonable rates, a grade of wines and jiquors that is unexcelled in the world. Twenty-five years ago it was sail by a party of European wine manufacturing experts who visited the vineyards of Culternia: "Geotlemen, you have in this country a grape that is unexcelled by any thing in Enrope. You do not know how to make following ingredients he makes "French the wine. You will learn, and when you

That time has now substantially come. A due regard for life and health, economy, common sense, patriotism, in fact, every consideration concerned in the matter, new bids Americans drink American beverages, They are pure, they are cheap, they are profitable. For invalids, especially, who are more than ordinarily sensitive to delet erions effects, they are indispensable. It ie not beyond the reach of hope that in time they may become as cheap as beer.

In giving the preference to so-called foreign products, for one thing, you simply offer a premium to the dishenesty of manufacturers and dealers. At any price, certain brands of foreign wines and liquors are, as has already been stated, wholly unobtainable in this country. Some who ought to know stontly maintain that California brandy is absolutely the only genuine brand to be found on the American market, and the purity even of it may somewhat depend upon the character of the firm from whom it is ordered. So long as there is a call for any commodity that cannot be naturally met, artificial means, or in other words, frandulent imitations, will be employed to meet it. While there continues in this country a demand for foreign wines and liquors which cannot possibly be filled in a legitimate way, people will simbly be put off and cheated, and their constitutions injured with "doctered" adulterations .-Sundag Herald, Washington, D. C.

### APPLE TREE BORERS.

#### Some Facts About These Insects and How to Destroy Them.

A recent bulletin issued by the Ohio Agricultural Station has the following information given in reference concerning the round-headed apple-tree borer:

The beetle is easily recognized by the brown color of its body and the two conspicuous longitudinal whitish stripes along its back. It appears early in the summer and deposits its eggs on the tree trunks, in or under the bark, within a few inches of the ground, frequently placing them just above the soil surface, or even below it where the ground is cracked open so that the beetle can descend without difficulty. The insect makes a slit like an opening in the bark, into which the egg is pushed. A few days later the egg hatches into larva, or grub, which gnaws its way into the inner bark, or sapwood, where it continues to feed throughout the season,

As winter approaches it frequently burrows downward below the surface of the ground and rests there until spring, when it again works upward and gnaws the inner bark and sapwood as before. It rests again the following winter, and in spring gnaws its way deeper into the body of the trunk, cutting cylindrical channels in every direction. Late in summer it bores upward and ontward to the bark, lining a cavity at the end of its burrow with dustlike castings and there rests until spring, when it changes to the dormant chrysaliss state. The adult beetle emerges from the chrysalias about a fortnight later, ests a hole through the bark with its strong jaws, and, comes forth to continue the propagation of the species. Thus three years are required for the development of the insect. The place where the larva enteres may frequently be detected, especially in young trees, by the sawdust-like castings that are pushed out, They also may often be seen, and are easily destroyed by pressing on the bark sur-

other similar instrument. The presence of the larva is shown latter by the discoloration of bark where it is at work. The full grown grub or larva of the round-healed borer is about an iach long, wholly without feet, whitish, with a chestnut brown head and black jaws. The pupa or chrysalias is lighter colored than the larva, and has numerous small spines on its back.

The flat-headed apple tree horer is an insect very different both in its adult and larval states, from the one just discussed. The adult beetle, instead of being cylindrical in form and brown in color, is flattened and greenish black. It appears, however, at about the same season as the other, and the life histories of the two species are in general much alike, the chief difference being that the present species requires less time to develop and attacks the tree higher up, being found all the way up the trunk and frequently in the larger branches. The eggs of the insect are deposited early in the summer in the crevices and under the scales of the bark, being fastened in place by a glutinous substance. In a few the larva hatches and bores through the bark to the sapwood, in which it cuts broad. flat channels, and sometimes completely girdles the troe. As it develops it bores further into the solid wood, and when full grown approaches the surface. When ready to become a pupa it gnaws partially through the bark aed then casts its last larval skin. About a fortnight later the pupa changes to a beetle, which gnaws its way through the bark, and thus completes the cycle of development.

Fortunately the injuries not only of both of these horers, but also by the bark louse discussed, may be prevented by a single, easily applied remedy, It consists simply in applying late in Msy or early in Jvne, and again about three weeks later a strong of soft soap, to which has been added a little crude carbolic acid. This mixture may be conveniently made by mixing one quart of soft soap or about a pound of hard with two gallons of water, heating to boiling, and then adding a piut of crude carbolic acid. The solution should be thorughly applied (a sernh brush is excellent for the purpose) to the trunk and larger branches of the tree. If the bark of the tree is especially rough it should be scraped before the wash is applied, and the soil should be smoothed down about the base of the trunk, so there will be no cracks for the insects to enter to deposit their eggs. Of course, the object of this application is to prevent the laying of the eggs from which the grubs hatch. As an additional precaution, it is well to examine the trees during the late summer and early autumn months for eggs and young grubs, which are readily detected, and can be easily destroyed with a knife. In this way one man can go over an orchard of 500 or more young trees in a

The soap and carbolic acid wash can also be successfully used in freeing trees infested with the apple tree bark louse, whose presence is detected by the presence of minute oyster shell shaped scales on the bark of the limbs. If one of these scales be raised early in spring there will be found beneath it a mass of yetlow or whitish eggs, which hatch about the middle of May into small lice, which appear as mere specks to the naked eye. These move about over the bark a few days, when they fix themselves upon it, inserting their tiny heaks far enough to reach the sap, Here they continue to increase in size, and by the end first put into it. Then the fountsin is rounding them with a knife blade or some of the season have secreted scaly coverings, placed upon a shaking machine and the gas which any of the world is engaged."

As has been mentioned above, the soap wash recommended for the prevention of borers also eff ctually distroys this post. The mode and time of application for the two kinds of insects is the same.

### WHAT PROBIBITIONISTS DRINK.

More than twenty thousand gallons of soda water are drank in New York during a warm day. This is the estimate of a mannfacturer who turns out 8000 gallons a day. In the manufacture of soda water, as in that of ice cream, America is ahead of Europe. Across the water, they do not use the dispensing apparatus which is so common in every drug store and confectionery store here—they serve it only in bottles and siphous. The business has developed enormously within the last half century, There are now about twenty-five thousand of these "fonntains," as they are termed, gushing the popular off rvescing drinks into classes and down the thirsty throats of people in this country. This estimate is also arrived at by the manufacturer upon the basis that a trifle more than fifteen per cent, of the whole number of "fountsins" manufactured are now in use. The hig firm referred to has made more than 100,-000 of these fountains altogether. Twelve hundred were broken up in this factory in one year because they were found to be of an objectionable make. The present sale of this establishment is about 2500 of all kinds a year. But the output is constantly increasing. A hundred different kinds of machines are now in fashion and kept on hand, costing from \$78 to \$4200 each. good many in unique designs are built to order for customers. One sent to the London Exhibition last year cost \$10,000 to mske-this was the higgest thing yet attempted, and rather astonished the eyes of the Englishmen. The name "snda" water, by the way, as is now generally known, is an entire misnomer for the effervescing drink. It was possibly given to it by some obscure manufacturer, who wanted a name of his own in the early history of the business and stuck to it. The more proper term is carbonade. Bicarbonate of soda could be used in the manufacture, but it wouldn't pay. The article as now used is simply water impregnated with carbonic acid gas—the same gas which operates in the "raising" of bread or anything of that sert. The ingredients used in generating carbonic acid gas for scda water are few and simple, and have long been standard articles in the markets of the world. The two necessary materials are a carbonate of some kind and an acid, by a union of which with the carbonate the gas is chemically evolved. Experimentally, a great variety of acids and carbonates have been employed. For practical purposes sulphuric acid is now admittedly superior to any other, but as for the carbonate, pulverized marble, whiting and bicarbonate of sods are still competitors for favor. The gas is generated according to the American system in an apparatus for the purpose, the gas, after its evolition from the marble, being carried through three washers, where any impurities are caught off by additional chemical appliances. It is then put into the steel fountains, ready for transport, by a process especially devised to suit the exigency, The regulation-size fountain will hold fifteen gallons. Ten gallons of Croton water, which has been filtered through charcoal, sand and gravel, are

forced into it under pressure, while the shaking thoroughly impregnates the water with the gas. The fountains are made to stand a pressure of 500 pounds to the square inch, being of steel, with block tire seamless lining, but the pressure of the gas is but 150 pounds to the inch. The marble used in the manufacture is the white snewflake, found up the Hudson, and said to be the best for the purpose, containing 99 per cent. of the carbonate of lime and magnesia. When the water is filtered as thoroughly as it is for that purpose, the produc in the fountains will keep for any length of time, and an export trade is now being built up in the article. Spain has been the firs country to make a start, and several generaters and fountains have lately been sen there. One generator of the size ordinarily used here will make about 2475 gallons of gas at a charge—enough to supply 750 gal lons of water. The English system of manufacture is to store the gas in a gas emeter, and pump it into bettles when de sired for use. The largest firm of the kine in this city controls now about two hundred patents in the various departments. I manufactures not only "soda" water and all the appliances of fountains and fixture for dispensing it, but also the fruit syrups boxes and other details required, even shoe ing their own horses. "Soda!" water i kept on tap in the factory for the refresh ment of the hands, the same as lager bee in breweries, or ice-water in ordinary es tablishments. Between three and fou hundred men are employed during the bus season, from January to July, chiefly make ing dispensing apparatus and fixtures After the Fourth, the demands of thos going into the business has been prett well supplied, and the work of the factor is cut down to the manufacture of supplie to the "plant." "Soda" water is als used about the factory premises as a fire extinguisher. The most popular flavoring for soda is the same as for ice creamvanilla-about one person in every thre calling for it. Lemon ranks next and sarsa parilla next, after which the various flavor are about on a par as to popularity. He soda, so-called, now so commonly supplie in winter, is merely hot water flavored wit the ordinary syrups. A special fountain i supplied for dispensing this from the ordin ary apparatus. The ordinary purchaser of five-cent glasses of soda water does no realize that he is giving about tw hundred and fifty per cent to the dealer .-

### RICE CULTURE IN GALIFORNIA,

Last spring L. F. Moulton planted som Carolina rice on some low land on Batt creek. He regards the experiment as success, says the Colusa Sun; "M Monlton has some 6,000 acres of land sui able for rice. The Crocker estate has 1,00 or more acres adapted to the same. Eug neers Grunsky and Wilkinson, the latter of the Southern Pacific, will visit the Day Slough, opposite Princetown, and make plans and estimates of a head-gate. Water egn be taken through this natural outle several feet below low water, and will cove all the land above named. The water no standing in the lake into which Butte cree flows is ten feet above the water now in th river, and a short canal will take it or near Butte Slongh. So there is a complet system for rice-growing. In a few year we hope to see land now called waste put one of the most profitable industries i

#### OUR RAISINS ABROAD.

Fruit-growing in California-says the Sacramento Bee-has come to be such a great industry, although it is yet in its infancy, that the people take everything as a matter of fact. There are, apparent y, no surpris s. The time was when they would devote much time to the discussion of the fact that a carload of crchard products had been sent across the C ntin at to tickle the palates of the Easteners. Now they pay no attention to the forwarding of a whole trainload of fruit, and when, a few we ke since, three carloads of California raisins were sent to London, but very few persons thought it was worth while mentioning. They seemed to take it for granted that the world's metropolis had always bought her raisins here and would always continue to do so.

That shipment was, in fact, one of the greatest events in the history of California, next to the discovery of gold. The raisinwere considered equal, if not superior, to the best Malaga layers, and brought far better prices; and since that first lot wasent across the shippers have received large orders from the leading European cities.

At the first blush, it seemed a ridiculous waste of breath to talk of California growing and coring raisins as successful y as the old countries, where the industry has been conducted for ages, and has been, to a certain extent, one of the mainstays of existence. It does not seem possible to the average person-or it would not seem possible to people on the Eastern borders of our country-that there is any locality in the United States that can compete with grapes. It would at first be contended that we neither had the soil nor climate suitable referred to.

ment of California products belongs to David Lobin, of this city. While on a tour through Europe he contributed a series of interesting letters to the columns of the would be a most profitable experiment for California to make. At first he contended that California should make a permanent exhibit in London, similar to those which have been made in the East. There were not a few that laughed at this idea, but these same scoffers have since been weaned scheme has so far developed that the State same light as Mr. Lubin, and will make an effort towards making a creditable exhibit of fruits, wines, nots, minerals, etc., in the great city.

In discussing the practicability of shipmind that it would always prove a remunerative und staking, despite the cheap labor shipments that have to be made. He said quality of grape-juice. that there were some very peculiar laws in Europe which worked greatly in our favor. When you take into consideration, stated Mr. Lubin, the enormous expenses of the

ing the people. That is what rack-renting was invented for. The farmers, orchardists and vineyardists, toil year in and year ot, and the longer they toil the poorer they get. The bulk of their carnings support the royalty, and the owners of the fand also manage to wax fat. With pur systems of land holdings, giving every man the right to own and manage real estate as pleases him best, and our good wages and comparatively light taxes, we can not only compete with but outsell the foreign producers, in cases where it does not require a very great amount or series of manipulations. If that line of argument is correct, continued Mr. Lubin, there is no reason why California should not become the greatest empire in the world. If this law is incorrect, then we would ere this have been checkmated by the Spaniard and the Italian, not alone from having any of thproducts ever sold in Europe, except as cariosities, but we would have been unable to have sold a pound of them at a high Then the Spaniard and Italian would have sold their products here, could they have done so, and the result would have been that no more orchards and vinevards would have been in existence, except for green fruits for immediate consumption.

If we have an advantage in a single case of goods, the same advantage is inherent in a hundred or a thousand cases, and this same advantage will accrus to California just as long as we have ownership of land and no king and no standing army. American bread and American meats have been sent abroad and sold with profit for many years, and will continue to be unless they kick them out by high tariff, and the sonny France, Italy or Spain in marketing; same rule, he believes, will work with other American products.

Mr. Lubin said that if the Board of Trade for such an unnertaking, and it would also Committee can succeed in placing a decent be declared that American labor could not exhibit in London under the management make raisins alongside of the countries just of a shrewd man, he will not only have no trouble in making a market there, but will The credit of suggesting that London create a demand for the goods in other would be a profitable market for the ship- countries. Once get the exhibit in London and let the Britishers get a taste of the California wines and fruits, they will never want any others.

At the last meeting of the State Board of Bee, and in some of them he urged that it Trade, the Committee appointed to canvass the matter of sending a show abroard, reported in favor of it, and suggested that a committee of one hundred men, selected from all parts of the State, be appointed to make final arrangements. The report was signed by Wm. H. Mils, G. L. Simmons and C. C. Hutchinson, and President Hatch over, and now agree that the undertaking wil appoint his committee of one hundred cannot be anything but a success. The shortly. The opinion of the Committee was that the plan was entirely practicable, Board of Trade now sees the matter in the and it was niged that no time be lost in completing the final details.

Mr. Lubin concluded his interview by saying that after the London exhibit has proved what is hoped for it, and a demand is created for California fruits, we can comping raisins to the European market, Mr. pel the Spaniards to consume all of their Lubin said that there was no doubt in his raisins at home or quit preparing them. The same could be said of our wines. We would even make the Frenchmen acknowwe have to contend against and the long ledge that they could not sorpass us in the

L. D. Combe, the welf-known wine man of Santa Clara Valley, has gone down to Paras. Mexico, with the intention of laving foreign governments in keeping up their out a vineyard of 3(n) acres, which he will kings, princes, fords, and other personages, apperintend. The very best varieties of and the vast armies, you must know that grapes will be planted, and the economic the money for doing so is secured by tax. value of cheap peon labor will be tested.

### THE FRAZER PROCESS,

Astonishing Practical Results Attained in Treating Wines by this Valuable Discovery

It is a matter of congratulation that this Electro-Magnetic Discovery has at last been put into a gractic I commercial condition, and establishes a m ch needed usefulness to viticultur". To fully carry out and apply the b nefits of this discovery the l'ority Wine Comp ny of California has been incorporated. The plant of the Company has been started with a tankage capacity of four thousand gallons, consisting of eight tanks, each five hundred gallons. Thes oak tanks have been specially constructed long and narrow, being about 9 feet in height and about 4 feet wide at the bilge. This is to enable the placing on of the electric wire for a greater space on the packages. This wire has been put on with the aid of a lathe specially constructed, and covers about 5 feet of the surface of the casks around their center. Being erected on end the casks were filled with wines of fair ordinary quality 1557 vintage, viz.: Zinfandel claret, Folle Blanche white wine, port, sherry, and new brandy. The electric current was applied during the space of three weeks-day and night, on the inductive principle, which simply acts from the exterior of the casks, the current being directed thr ogh the staves, perfectly magnetizing the liquid contents.

The chimical action on the wines and brandies has produced wonderful results, far exceeding the expectations of the inventor, who had till now been governed by results of trifling quantities subjected to the current from a small electric battery. This being the first occasion in the hist ry of science that large bodies of liquor had been submitted to the electro-magnetic process, the effects have been watched with the greatest interest. When the electric current was attached the agitation to the liquor could be distinctly discerned by feeling a tremor manifest itself on touching the casks. The hools, even those remote from the wire at either end, became instantly charged with electricity sufficient to convey a severe shock when touched. These facts proved the powerful influence of the inductive current on the contents of the casks. From time to time during the process of treatment the wines were examined, and the samples displayed the chemical action and chang's taking place. It was manifest that the fermenting germs and protean compounds were becoming paralyzed, and were being precipitated as inert particles into a decomposed sediment.

The transformation of the essential oils into ethers was apparent when ten days under the process. Upon examining the precipitation there was fully six inches of sediment at the bottom of the casks, which proved a m -t vici n- compound-earthy and weely to the taste. This was the more remarkable as the wines under treatment had been sulj et I to the usual racking three times since made and was apparently quite clear when pumped into the tanks. From this observate n an important dedocts n can be mad , that the magnetic treatm at perfect y purifies and refines the wines in the shirt | ri | mentioned, whereas it is ju su bl if several years of the old free ss w uld fr ve s th ragh in its off.c's. After ten days the wine commenced to devel p the fragrancy and

tirely the crude, raw smell appertaining to new wines. The color acquired a brilliancy seldom seen in wine-this shining brightness called the "fiery eye" became visible when submitted to a vivid light, and may be regarded as a very valuable acquisition.

The wines upon being drawn off into puncheons were permitted to rest for one week, and during the period improved to a marked degree. They have since been submitted to a number of e unoisseurs, who have mnammonsly expressed the one opinion that a perfect wine in taste, bouqu t, and color has been developed from a new rough product. That a result has been acquired in one day that is speculative to an ticipate might be realized in several years under the old process.

It is the intention of the Purity Wine Company to bottle the wines already treated, and dispose of them in the local and Eastern markets with the hope of elevating the standard of our most valuable product, and establishing a system of shipping pure wines only. The Company, en. couraged by the output of their experimental plant and the demands of several influential viticulturists, propose to extend their capacity to meet the requirementa that are certain to exist and the probability is that one million gallons will be put through the process of the vintage of land. Wines that are fermented through will be received for treatment as early as February next. The cost of treating will be less than half the expense of maturing und r the old process. In conclusi n the expression of an intel igent viticulturist may be quoted to demonstrate the immense benefit accruing to this State when he stated that " Raw wine in foture would be sent to the refinery the same as raw sugar."

### USE PLENTY OF APPLES.

Apples are abundant and cheap this year, and there is no more useful fruit. Raw, stewed, baked or preserved, they are wholesome, toothsome and nutritious. The fall apples are the most joicy and delicious, but do not keep, and for that reason have to be sold cheap. Every good-sized family should boy a barrel of them at once for immediate use, and save them from spoiling by eating them. A considerable portion of them might also be made into jelly by coring them and boiling skin and all. apples are best for this purpose, as the color of the skin gives a fine rich tint to the jelly. It is the cheapest of all jellies, and remarkably good when well made.

Six 'E 1-12, France has brought un ler irrigation 2,500,000 acres of grass lands by means of canals and oth r engineering works, and by so doing Las d ubled, and, in some cases, tripled, the yie I of hay per acre. About thirty-four per cent. of the arable land in H lland is unl r grass; in France that percentage is 11 ., and in Germany 12. In France the yield of t bacco is f urteen cots per acr, and in Belgium seventeen cuts.

LATEST ADVI ES from the leading wine districts of France are of a most favorable character, and a large producti n is ensared. According to the official report from the French Minister of Agriculture, the vines have regain d th ir ancient prosperity. The department of Gard has produced six mil i n hectolity s, Hérault about eight millions, and the Gir al more aroma of matured wines supplanting en- than two and a half million heets tres.

#### TRUIT DRYING.

S. W. Lovell, writing in the American Agriculturist, says: Fruit evaporating is a business requiring eareful study and experieuce to be successful, as I have found after a number of years of faithful study. Our grafted varieties of apples yield from six to eight pounds of the evaporated fruit to each bushel of fifty pounds of green apples, according to the care and management the fruit gets during its preparation and drying. The best paring machines are none too good, and until 1886 there was not a worthy one to be had. But now several very practical machines are in use. I prefer machines that pure, core and slice at the same time, though I used to think a separate slicer necessary to get the greatest production. But I can now get eight pounds to the bushel by the use of the combined Tubor machine. Two girls with this machine can prepare thirty bushels of apples iu ten hours, and they work for sixty cents per day each. To save fruit, paring machiues must have the best care. The kuifeguards, knives and coring tubes should always be ready for exchange, and a machine without interchangeable parts is practically

A popular sentiment in vising against the use of so much sulphur in bleaching fruit. I am glad to see it, but bleaching of some kind will be followed for some time yet, Apples and peaches should be introduced to the bleach as soon as pared, as after that a good color cannot be had, as they turn red by delay. A good way to preserve the fruit for the blencher is to run it as soon as pared into a vat filled with water made brackish with salt, being careful not to add too much salt, as then the fruit, when dried, would gather moisture and damage its marketing quality.

S read the fruit for drying on trays made of No. 5 galvanized wire cloth,

I prefer steam heat for drying, because by it much more work can be done by oue fire than by the furnace system, and insurance rates are lower. Care must be taken not to leave the fruit in the evaporator so long as to turn it brown. I take out the fruit rather early and spread it about ten inches deep on a curing floor. where it lies for ten days or two weeks, and is shoveled over once or twice before packiug. In this way one can take fruit from the dryer while it is quite damp, saving fuel and increasing the working capacity of the machine. We also get a more marketable quality of fruit, for the color will be better. But I am not advising packing fruit before it is thoroughly dried, which is bound to cause shrinkage; and so much of this has been done (especially on bleached fruit, that will keep in quite a damp condition), that commission merchants have got into a notion that all packages of evaporated fruits must be docked for shriukage.

No machine is yet made that will do good work on peaches ripe enough to be of rich flavor, so they must be prepared by haud. They must be bleached like apples, and spread on trays with the flat side next to the wire, to keep the pieces in nice shape. Peaches are packed in twenty-five ponni boxes, and a nice facing is laid next to the cover. Considerable care is necessary in drying blackberries and black raspberries, particularly to see that they don't dry too much. I hardly dry them enough, but spread them in my curing room six inches deep, and shovel them over a few times until they are thoroughly dried. Four being right before going ahead.

pounds of the black raspberries will make one pound of dried fruit, and a bushel of peachea will produce eight to ten pounds of the dried article,

Evaporated apples in ring slices are packed for Eastern markets in boxes holding fifty pounds. Two pieces of paper are placed in the boxes next the cover and placed so that they will fold back each way from the center, lapping down on the side of the box, and then the riug slices are laid in rows on the paper, with one-half lapping so as to make a vice facing; then the hox is filled from the bottom, and if the fruit is thoroughly dried a press is necessary to get fifty pounds into the boxes commonly used.

So much depends on proper management and experience that it is difficult to give accurate estimates about the business. One may make a failure out of the same run that another would turn to profit. But I will make two estimates. The first is on a business of drying three hundred bushels of apples per day of twenty-four hours, reckoning at the low rate we may expect for this season, as the crop is general:

300 bushels apples, at 10 cents per	
bushel\$30	00
28 girls to run paring machines, at	- 4
60 cents per day 16	00
	00
2 men to haudle apples, at \$1.25 per	
	<b>5</b> 0
2 men to attend the evaporator, at	
\$1.25 2	50
2 boys to attend the bleaching, at	
	50
	50
	50
	00
Total expenses	00
Cr. by 1800 pounds dried fruit at	
6 cents per pound	00
1	
Net profit per day\$33	70
Met prout per day	10

On an evaporator of seventy-five bushels' capacity in twenty-four hours, such as the Isrge fruit grower wants who handles his own crop, the showing should be like this: 75 bushels of apples at 10 cents.... \$7 50 5 girls, day and evening, at 76 cents. 3 2 men at \$1.25..... Fuel and incidental expenses..... 

6 ceuts...... 27 00 Net profit per day..... \$9 25

The figures allow only six pounds of dried fruit to the bushels of green apples, whereas good mauagement may increase the proportion.

The estimates for labor are very close, but from these two statements fruit-growers can readily figure out whether they can make any money in evaporating or not, My statements are made on the supposition that the whole business is managed closely, and that apples are not allowed to rot or machines to take care of themselves; uor have I allowed for the waste. But if you nse steam, you can make the waste into vinegar stock worth about \$3 per barrel, if the buyer furuishes the barrels. After the pomace has lain about six days, it can be pressed again, and gives about quarter as much jnice as at first, after which the pomace may be burned for fuel in any boiler furnace with a good draught, especially if a little wood or coal is added. I do not think the many little cook-stove evaporating devises can be recommended at the present prices, as snn-dried fruit can be prepared quite as rapidly and brings very nearly as much as evaporated. Wellorganized evaporating houses are the only reliable means of gaining a profit at this business, and one must be very sure of

iug six cents per pound for evaporated apples of prime quality at the evaporator, iu sacks furnished by the buyer. This is as good as eight cents in New York City, as there is no packing, freights nor commission.

### ADULTERATION DON'T PAY,

It gives us pleasure, says Bonfort's Cir. cular, to accord to The Christian Union full credit for a timely and estimable public service which it has just rendered, through an unbiassed scientific investigation into the character and extent of adulterations practiced by the wine and spirit trade, wholesale and retail, of New York City. motive and the method of the investigation are clearly indicated in the following editorial extracts, viz.:

We have shared the general impression that it is almost impossible to get a pure wine; that the wines of commerce are adulterated compounds in which the pure juice of the grape bears a small part; that brandies are similarly composed of various noxious materials; and that the worst, or at least the most flagrant, evils of drinking would be considerably mitigated if some means could be discoverd to guard against adulteration and scenre pure wines and liquors. . . . .

For the benefit of readers at a distance, it is proper to introduce this report by saying that in New York City, where Dr. Albert R. Ledoux is known, uo words of ours are needed to guarantee the impartiality and accuracy of his scientific work. As an expert he has no superior in the country; and the absolute impartiality of his examinations, as well as their thoroughness, can be relied upon. But if it were possible that his prejudices should color his scientific report, those prejudices would be against, not favorable to, wine-drinking, since he is a strennons temperance man, and entered into this examination, when The Christian Union proposed it to him, with enthusiasm. for the sake of the cause which it was to serve.

In order to make the proposed examina tion his agent purchased wives and bran. dies at different liquor saloons, some of the second, others of the third, class. The most aristocratic driuking-places were not visited. It is hardly necessary to say that the object for which they were purchased was not disclosed.....

The testimony of this report, a testimony which cannot well be shaken by anything less than another chemical examination equally thorough and on specimeus purchased with equal impartiality, is that the wines sold in the second and third class saloons in New York City are not adulterated to any very considerable extent, except as cheaper wines are mixed with them or they are diluted with water or fortified by spirits. This is the scientifically ascertained fact. The natural deduction from that fact is that the cheap wines made in America are so cheap that it does not pay to manufacture spurious imitatious. The cheap wines have driven the manufactured article from the market. For so much as this we may give thanks to the vineyards of Ohio and California.

In his report, Dr. Ledoux says:

Having previously made un examination of whiskies as sold in New York, I confined myself to braudy and sherry and port wines, because in Europe these articles Our suffer most from adulteration, and have than the one just described.

Western New York markets are now offer- that reputation here. Whiskey-the most common intoxicant in America, if we exclude beer-my previous investigations have shown to be rurely adulterated in any manner to make it more harmful, the alcohol only being increased or diminished artificially, and the various "blendings" and changes being usually in the line of harmless flavoring, coloring, etc . . . . .

The prices asked for brandy varied from 50 cents to \$1.70 per quart; for sherry and port, from 45 cents to \$1 per quart. Al the samples were examined qualitatively for adulteration, and fifteen subjected to s more complete analysis .....

The difference between all wines and distilled liquors from the chemist's standpoin is small. They are all mixtures of wuter and alcohol-first, with slight differences in sugar, flavoring and coloring matter. In natural wines and liquors the difference that distinguishes one from another in tast and smell is in subtle, intangible ethers and these ethers and flavors produce prac tically no physiological effect.

Whether we speak of the good or had effect of alcoholic stimulants upon the sys tem, it is the alcohol that produces the ef feet, and we can practically disregard th other constituents in considering the ques tion. (I am speaking of pure liquors.)

The samples analyzed are no exception In most of them-nearly all-are traces of ziuc, lead aud copper, from metallic recep tacles, pipes, or faucets acted upou by th acid liquids. But many soda waters, syrup and mineral waters sold in drug stores con taiu, from the same canse, more. It is sel dom, however, that these poisonous sub stauces are present in sufficient quantity t produce any bad effect; in uo iustauce wa this the case in the samples as analyze above. There are large additions of suga in some, of burnt sugar color in many, an of cochineal in the ports. (No logwood was discovered.) There were sma amounts of tanuin from casks, etc., etc.

But as to the alcohol: In the brandie two samples contained more than the no mal-it had been added-while all the oth ers had been more or less diluted wit water. In the ports, the alcohol in all br one sample was below the average of th natural wive. In the sherries one sample had been "fortified" and one greatly d luted, while the others were uurmal.

But it is a fact that the flavors and color used at the present day are either harmles or employed in such small quantity as t be fairly left out of consideration. The sevre to increase temptation by making tl liquor more attractive to eye and palate but liquora manufactured and sold at th present time and in this city, so far as m tests go, are not injuriously adulterated 1 poisonona substances.

REMEDY FOR DIPOTHERIA.-Lime-water an admirable remedy in cases of diphtheria Its local effect is most useful in cleausin and purifying the fances, and its mode of application is the easiest imaginable. I requires no spray apparatus, no douching and no effort at gargling. It is sufficier to have the patient slowly swallow a ter spoouful or more every hour, in order t get good results from its use. This fact i of the greatest importance in treatiu children, who are too often cruelly torture in the attempt to make local application to the throat. Lime-water can be give easily, and is laken readily by children and there are few cases of diphtheria which require a more energetic local treatmen

### BATTLE OF THE BUTTLES.

The last number of the Revue Scientifique contains an interesting article by M. E. Ratoin, in which, under the heading of "One Aspect of the Wine Question," an account is given of the wines of the different vine-growing countries and their influence on the wine trade in France. Until quite recently French vine-growers believed that they would never have to encounter any commercial competition for their clarets and champagnes, and that their old reputation and the quality of their wines would always ensure a good market and exceptional prices. The time, however, has come when their hopes have been destroyed by that large part of the public which, without being wealthy enough to pay a very high price, will yet not do without their daily bottle of wine.

The three enemics which threaten the Freuch vine-grower are the excessive iuerease of duty on wines; the frauds and the innumerable imitations of French labels; and the competition of the small vine-growers abroad. Ressia, Servia, Greece, Aus tria and Germany are all counties in which vine-growing is b coming an important agricultural industry, and quite recently Australia has joined the enemy by manu factoring wines which, though they are more alcoholic and intoxicating, are not unlike the French growths known as Cote d'Or and Médoe In pointing to the growths of the different countries and their distinguishing qualities, the writer gives Hangary the first place, after France, among vine-growing countries, as producing the greatest variety of growths. Of these the growth known as Tokay is the first and foremost, and it is celebrated all over the world. According to the Hangarinn proverb its color as well as its price is gold. It is grown only in a district of four villages; and the most celebrated among the different Tokays are those known as St. Thérése, Szarwach, and Mezer-Male.

Leas expensive, but equally well known, are the growths known as Lagosch, Ruszt, Bosing, and Neszmelyer; while the Hungarian claret known as Corlovitz has become a favorite tonic in England. Concerning it we are told, "Carlovitz is a sweet, red wine, very light, and 'd'one grand fin. esse,' " The degree of perfection which vine-growing has attained in Hungary in the course of the last few years is chiefly dne to the powerful aid given by the Government to every effort for the amelioration of the industry. Special experts have been appointed to inspect and inquire into matters connected with vinc-growing; and in 1881 a vault was opened at Budapest where wines may be sent direct by the proprietors, the administration analyzing the contents of each vut, and accepting only wines which are absolutely pure. The great enemy which is threatening Hungarian vines is the phylloxera, which threatens to cause the ruin of many of the small vine-growers

After Hungary, Rhenish Prussic is the most important competitor of France in wine-growing. The growths may be divided into the wines grown on the right bank of the Rhine, those on the left bank, and those known as Moselle. Of the latter the following are the best known:-Brauneberg, Thiergarten, Nenberg, Josephole, Ohligaherg, Winningen, Scharzberg, Erdan, Bernkastel, Win rich, Granch, Welden, and Pisporter. Most of these wines go to Belgium, where, for their lightness and pleasant taste, they are much appreciated. The wines grown in the Ahr valley, between

Bonn and Coblentz, are the most celebrated of the growths on the left bank of the Rhine. They are white, dry, aromatic, and spirituous; but they do not lose their rough flavor till they have been kept in a vault for at least seven years. If the harvest is good, the Ahr valley produces some 3,000,000 hottles of wine. One of the hest known wines of the left bank of the Rhine is the Liebfraumilch, grown near Worms, and the far-famed Rudesheimer, first imported from Bourgoyne by Charlemagne. All the growths on the left bank have less body than those grown on the right bank, but are of a better quality and have a richer flavor; the best wines on the right bank are obtained in the district between Mayence and Coblenz. Among these are the wines grown at Hochheim, Eltville Wallrath and Johannisberg. All others are stronger than the growths of the left bank, and aromatic, but rather dry, and require a long time before they obtain all their good qualities.

After giving a short account of vine growing in Spain and Portugal, and in California, M. Ratoin concludes by saying :-' Thus everywhere, in Europe and in America, duties, imitation, and local production creased daties on imports? By patting a higher duty on English coal and iron? We eannot undertake to indicate the measures which ought to be taken. It is our business only to throw light on a situation to which

people do not pay sufficient attention. There are changes which no one can alter; but there are some which are partly brought about by ourselves, for commercial conventions are not always made with desirable eare and prudence. Some have been voted by Parliament with culpable superficiality. One of these is the commercial treaty with Mexico, which is a veritable fool's treaty We seem to forget the economic troth which the members of the Chamber of Commerce pointed out lately to the Minister of Foreign Affairs- 'The commercial politics are a nation's strength if wisely directed, but they bring about its rain when they cause all its resources to decrease.""

#### THE BLACK WALNUT.

Every land owner, says D. B. Wier in American Garden, should plant the black walnut. It is the most valuable of trees, No tree can nearly approach it in yearly fature value. Prof. Brown, of Ontario, estimates from an experience of his own that an acre planted with this tree may in fifty years produce a value of \$18,350. Beal, from his exp. rience, thought this estimate too low. Think of a mean annual income of \$322 from an acre of trees, the trees and planting of which could be done for less than \$50. At least every waste place, especially if the soil is rich, ahould be planted with the black walnut. It is a stordy, handsome, vigorous tree, easily

grown, because no animal and only one insect feeds on it. The white walnut or but ternut is also a good thing to plant. Tho black walnut has a transcendant value little known, which is that the fine European walnut (Juglans regia) grows finely on it, either stock or top grafted. The hardier varieties of this finest of nots from the north of Europe should succeed top grafted on this hardy stock in all the middle and Southern States. The writer of this has sent thousands of black walnut seedlings to California for this purpose. Horticulture has yet hundreds of profitable paths untrod-

### OLIVE CULTURE.

The San Francisco Bulletin reports that during no season in the history of California have so many olive trees been planted na were set out during the past winter. Statistics collected more than ten years ago showed that the greater part of the State was suited climatically for the cultivation of the olive, and now enpitalists have gone Into the business. It is a century since the Mission Fathers planted the first olive orchards in California. In some cases these groves outlived the churches and dwellings erected by the same hands in their vicinity. Some of the fashionable clobs of New York are supplied with olive oil from California, and it will not be long before the supply will be large.

Subscribe for the MERCHANT,

### EAST BOUND THROUGH FREIGHT.

Forwarded by the Southern Pacific Co., October, 1888.

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Articles.	San Francisco	OAKLAND,	Los Angeles.	Colton.	SACRAMENTO.	SAN JOSE.	STOCKTON.	MARYSVILLE.
Barta- Componed							444444	
Boiler Compound	1,260,430		1,975,850			70,080		
Barley	431,010	3,344,510	1,010,000		3,730,670	6,729,730	*****	450,390
Borak	160,120							
Brandy	41,170		9,110	29,710	43.8 50	3,780		
Canned Goods	2,820,560		31,340	108,120	319,380	2,116,610		359,880
China Merchandise	142,450							*******
Chocolate	12,630						*******	*******
Cigara	8,640				4	4,	******	
Clothing, California Manufactured	28,070		,		*******	*		*******
Coffee, Green	323,670		*******		*******		*******	*******
Drugs and Herbs	42,770				1, 190			********
Dry Goods	11,170			* / * 41 * * * 4	1100000		*** ****	*******
EmptyPackages	40,000		84,450		40,000			
Fish Pickled	477,390		2001	1111111 · · · ·	1.413.830	2,692,710	* * * * * * * * * * * * * * * * * * * *	406,590
Fruit, Dried	802,220	*****	360,290	125,890		1,478,650	107,200	
" Green Deciduous	4) 100	*******	108,430	*****	3,045,970	1,11,11,11,11,11	107,200	
Fuse	9,430		*******	*******			********	********
6lue	24,390							
Hair	4,770	*** *****				,,,,,,,,,	**********	******
Hardwate	211,210	******	81,500		120,450		********	
Ilidea	29,170		24,500	56,200		150		
Honey	1,104,150	39,850	24,000		1.118,020	35,300	11,520	
Hops.	1,101,100			*******	23,500		4 / 1 / 1 1 1 1 1	
Leather	167 350	14,350			71,110	62,720	*****	*** ****
" Scrap				*******				
Lumber	490,000				42,900	37,180	******	*******
Miscellaneous	305,120	84,290	175,590	4,700	47,470		10,910	8,220
Malt			*****		22,210			*******
Merchandise, Asiatic (in bond)	127,570			**** * * * *			*******	*******
Machinery	61,140			* * * * * * * * *			********	*******
Mustard Sced	67,060		11111	*******	63, 950	40,560		
Nuts	22,830	40,240	82,340	*******			**** ****	
Oil, Whale	22,480 30,750							
fish								
Oniona	140,770 281,570							
Potatoes	21,510	49,600			43,150			
Pewder	180	35,000			*******	51,000		
Quicksifter	26,530		2,179,970	271,440	4,095,220			
Rice			2,200,000					
Salmon, Canned					*****			
Pickled						10000	*** ****	
Seed	4,700	,				154,260	** * * * * * * * * * * * * * * * * * *	
Shingles	. 164,430	51,600	******		05 000	25,000	66,300	
Sheep	20,000				25 ,000		*******	****
Silk	595,880		******			*****		
Silk Goods	27,800			*****	*******	*******	*******	
Skins and Furs		.,						
Sugar	2,806,300		******					
Test.				4	,,		******	
Vegetables.,			*******					
Whalebone		29,740	117,520	16,780	247,620	23,600	13,480	
Wool, Greate		20,190	183,620		107,040	10,000		
" Pulled.			16,230		97,979			
" Scoured							* * * * * * * * *	
Woolen Goods	40,140						,	
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Totals,	22,463,550	3,595,210	5,460,770	642,340	14,732,140	13,570,630	260,410	1,525,080

### Recapitulation.

22,463,550

Oakland. 3,595,210 5,460,770

cramento, San Jose, Stockton, 14,732,110 13,570,630 269,410

Maryaville. 1,225,050

Grand Total Colton. 612 310 61,859,187



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### FRIDAY..... NOVEMBER 23, 1888

THE FOLLOWING SUMMARY of the latest information received from the wine growing districts of Europe is obtained from Benfort,s Circular :

The French vintage has been brought to a close both in the Upper and Lower Médoc as well as in certain "palus," but in some "palus," notably in the islands, the gathering of grapes still continues and will not terminate before the first week in November. The amounts brought under shelter are getting to be something extraordinary they certainly surpass expectations. Most proprietors have harvested double the amount they seenred in 1887, and several of them will make three, and even four times, the quantity of wine they produced last year. In the South, in the Provence and Rousillon, the quantity secured is greater than had been expected, and although there is much irregularity of quality, many wines promise to prove quite a success. The Dordogne and Armaguae have done well, the good Bergerac growths will turn out excellent; this may also be said of the Gers, combining a good yield with creditable quality. The Landes have great abundance. Central France has been backward, and exhibits great irregularity both in yield and quality. Eminently favorable returns are received from the Beanjolais and Macounaia in every respect. A similar report reaches us from Algeria; good new wines have arrived here from the latter, both as regards color and degree. Our own Hercult wines are not only abundant, but their vinosity is strong, and the flavor pure and unobjectionable.

The vintage of fine wines in Burgundy is not quite up to expectations either in point of quantity or quality; old wines, notably of 1886, are therefore in request. The quantity, in Charentes, was very irregular this vintage, but, as regards quality, it is safe to state that it is one of the best we have had for years.

The on the whole satisfactory September has been followed by a most variable Octo\_ ber, leading to a good deal of disappointment in Rhenish Hosse, and the remaining German wine districts. Muturity has been retarded by the lack of warmth, and it is to he hoped that the last week of the current month may still make amends, At any rate, it is certain that in a great many report, the output would be about 408,232,

that it will be unfit for consumption unless sugar be added to it: hence the Wiesbaden-Rheingan, Chamber of Commerce has petitioned the Imperial Chancellor to suspend the provisions of the law relating to the socalled natural wines, and allow sugar and water to be added to the must of the 1888 erop. For a couple of days past the Haardt Mountain District has been in full swing, and in point of quantity the yield will probably not exceed half an average, but by way of compensation the quality will, in all likelihood, turn out better than had been supposed. In the Rheingau wherever the grapes had sufficiently matured, as, for example, in Lorch and Assmannshausen, the vintage was taken in hand, but on the whole there is much delay and dissatisfac-

Radiant sunshine has favored vintage work in Portugal, and everything leads to the hope that our wines will be of a quality superior to last year's, especially in the province of Torres Vedras and in the sor rounding country, but the phylloxera has destroyed about one-half the crop, whereas in Northern Estremadura and the Beira, grapes have been more abundant. As a rule those proprietors who are auxious to produce a good quality, have only gathered perfectly matured bunches of grapes at the start, giving the rest a chance of ripening at leisure, and in this the weather has favored them throughout.

There has been great activity throughout the Spanish wine regions in bringing under shelter the 1888 vintage, which, on the whole, may not quite reach in quantity last year's, and whose quality may prove defi cient in a good many localities, yet should be viewed with satisfaction when we consider how poor the outlook was but six weeks ago. The fact is, that the October rainstorms early in the month did a great deal of good, the soil throughout the Peninsala being parched at the time, the grapes suffering from extreme heat, and the roots of vines from a lack of moisture.

In nearly all the Southern provinces of Italy the vines have done remarkably well, and there is great abundance, although in a few localities the drought of the first Summer months has damaged many grapes, while on the other hand preventing the spread of the mildew. As matters stand in several provinces, proprietors do not know whether they are justified in rejoicing at their abundance or not, for they are at a loss where to put all their new product, many of them having over one-half of that of 1887 still waiting for a purchaser.

The result of this year's Hungarian vintage does not exceed two-thirds of an average crop. At Great Kanisza the wines are too sour-8° to 14° sngar; light and otherwise sound. 1888 will consequently rank with the poor years, and prices will rule correspondingly low.

THE GOVERNMENT report makes the average yield of Winter wheat, in all the States for the crop of 1888, twelve hushels, and the average yield for Spring wheat a fraction over ten bushels. On an area equal to that of 1887, the output of Wioter wheat this year would be 290,678,517 bushels, and of Spring wheat at ten bushels, 134,419,-582 bushels-a total of 425,096,994 hushels, as compared with 456,218,000 bushels for 1887, indicating a deficiency of but 31,122,-000 bushels by measure. On the hasis of the approximate acreage of the June, 1888,

localities the wine will turn out so sour 762 bushels, or 47,985,238 bushela less than the crop of 1887. The quality of both Winter and Spring wheat is greatly inferior to last year. The loss is not on weight alone, but in diminished flour output. is difficult to estimate just now how much this difference will be. The Government report is widely different from the many private estimates.

> PEOPLE IN the East who have never travelled beyond the boundary lines of the State in which they may reside, cannot reasonably be supposed to credit all they read about California. The comparison between their home surroundings and the pictures of western life presented for their appreciation is so great that the truth is apt at times to be mistaken for a pleasing fairy tale. To overcome this very natural feeling of dishelief, and sweep away all doubt on the subject, it will be only necessary to offer the most convincing evidence of all-that of the senses. Seeing is believing; when it comes right down to argument over mammoth pumpkins, which afford in themselves sufficient proof and guarantee of soil and climate.

> In the project to send a travelling exposition of the resources of California, through the East, the State Board of Trade has struck a happy idea. It will tend to increase immigration, by corroborating in a manner plain enough for those who run to read, the glowing yet truthful statements which from time to time have found their way abroad about the wonders of Califor-

> The indications at present are that the immigration during the early months of 1889 will be heavier than ever before. The railroads anticipate an extraordinary increase in travel, and are already making preparations to meet the rush. Northern California will more than probably be the chief point of attraction. The South had a corner on the boom last year, and worked it for all it was worth. The coming movement iu lands will be more general, and the attention of investors will undoubtedly be directed to land which, while equally as good have not been forced to the top notch of prices during the late excitement.

> The intore prosperity of California will mainly depend on an increased population, and it behooves all citizens who have the interest of the State at heart, to foster any scheme which will aid in advertising abroad the unrivaled opportunities for establishing profitable homes within our boundaries.

> AT a special meeting of the Board of State Viticultural Commissioners held last week, the following matters were discussed and passed upon: In the matter of representation at the Paris Exposition the Commission decided to collect and forward through Commissioner Hallidie, a creditable exhibit of wines and hrandies from different parts of the State. Platt's Hall has been engaged, and will be known as the Viticultural Exchange. It will be ready for occupancy the last of November, when producers, manufacturers and merchants will be called upon for samples to be placed on Dr. W.S. Maolove, Commisexhibition. aioner for the Sacramento district, stated that the drying of wine grapes with them had been a great success, as very satisfactory prices had been received; that the supply was not equal to the demand. He predicted that unless satisfactory prices were paid next year for fresh grapes, the entire crop in his district would be dried.

THE INTERNATIONAL COMPANY OF Mexico does not seem to have cast its lines in particularly pleasant places. A disposition to embrace the whole earth, under a gran from the government, led to disputes which finally culminated in the appointment of Senor Sanchez Facio as a special Inspector of Colonies in Lower California, The result of his investigation, as embodied in a report now being made public in the Diario Oficial, the organ of the Mexican government, is not at all favorable to the Company in Lower California. Senor Facio states that the terms of the concession, in regard to the settlement of the lands, have not been complied with, and that large tracts have been sold to foreign capitalists who will not become colonists, but have bought solely for the purpose of speculatioa.

Another charge is that the Company has deceived the National Government by making false representations as to the number of colonists and methods of colonization. The concession required that a majority of the colonists should be Mexicans, whereas Senor Facio claims that they have been mostly foreigners.

It is also charged in the report that the Company has appropriated to its own use lands belonging to private individuals; and farther, that the Company has not made the survey, measurement and partition of the zone granted in the Cedros Islands, thereby invalidating their title.

The assertion is made that they have not established, during the two years specified by the concession, from March, 1886, to March, 1888, the fifty families required by Article 12.

The statement is also made that the Company has not furnished these families, or the families existing there, the fifteen hectares of land as minimum, or one thousand hectares as oraximum, according to Article 13: nor furnished to each head of family the implements or work, according to the same Article 13.

In the mean time, the International Company has added to existing complications by turning over its contracts to an English company, who will now be compelled to wriggle out of the difficulty as beat it can.

THE STATE Viticultural Commission now estimate that the total output of the wineries of California for the season of 1888 will ha 17,000,000 gallons, of which 4,000,000 gallons is braudy. This is slightly in excess of the yield in 1887, and much better than was expected, just after the first rains which so badly damaged the grape crop throughout the State. One noticeable feature of this year's wines is their lownesa in color, betokening a small percentage of alcohol. This fact is attributed to the small amount of sugar in the grape, owing to the late and imperfect ripening of the grape. Last year's wines, which were onusually high in color, and in great demand for the Eastern markets, and good prices are being realized by those who were fortunate enough to have any of last year's stock left on hand.

AT THE recent sale of wines and liquors from the cellar of the late Sam'l J. Tilden five hundred and twenty bottles of Steinberger brought from \$3.50 to \$9 per bottle. Some "double O" Madeira brought \$3.50. and some blue grass whisky, forty years old, brought \$11,50 per gallon. In all, 1440 bottles were sold.

#### A WINE EXCHANGE.

An Organization which will Prave of Incatcutable Benefit to Producers.

Plans for the permanent exhibit and viticultural exchange in Platt's Hall have at last assumed practical shape—the mest serious difficulties having been overcome. as will appear by the outline which is now ready for the jublic.

Before leaving for the East, Mr. D. O. Mills, proprietor of the hall, left instrutions to have the lighting through the roo greatly improved, which is now hing don sati-factority. The present occupants will ieave the har before the end of the pres nt month, when hie Viticultural Con mission will enter into possession and p ricet the improvements now agreed upon.

One of the leading features of the exhibit will be wines and brandies snitabl for consumption, as distinguished from new vintages snitable only for storage. The object of making such an exhibit would be entirely frustrated if opportunities for sampling were not provided, and in this was found the chief stumbling-block in preparing the place for the new it stitution. A free sampling-room would, of nee ssity. become a public nuisance; one that the Commission would not care to control. However, exhibitors of fine products would not be willing to contribut, samples for free use of visitors. Several members of the Commission have shrunk from the responsibilities of managing the sampling, as it has seemed, at first, inevitable that they must conduct a portion of the institution after the manner of a saloou, and benbliged to keep accounts of petty sales in the interest of numerous exhibitors. A happy solution of this difficulty has, however, been invented. At the last meeting of the Board a communication was received from Peter Klein, proprietor of the wellknown Occidental restaurant, on Bush street, in which the proposed method of managing this sampling difficulty, so that it should decrease expenses instead of increasing. He made an offer to lease a portion of Platt's Hall for a cafe to be opened to the public between the hours of 11 a M. and 3 P M., in which would be served, according to the desire of the visitor, a firstclass lnnch-coffee, salad, oysters, one or two hot dishes, cold meats, etc .- with the understanding that no wines should be served, excepting those on exhibit in the hall, all of which must be of California production. Il further proposes that the control of this cafe should be within the rules that may be established by the Commission, and that the charges to be made for any samples submitted by exhibitors should be in addition to the prices named by the exhibitors, uniform without respect to the price of the different qualities presented. This proposition seemed to solve all the difficulties that have been heretofore feared, and the Committee of the Board was anthorized to conclude an arrangement with Mr. Klein for this s rvice.

All the details for managing this cafe have not yet been completed, but the folngreed to:

A portion of the hall on the left of the main entrance and connecting with the alley to Pine street, will be partiti n d off for the cafe. The Commission will print a full list of all exhibits submitted for sampling, which will be so managed that there shall be no favoritism shown to any indi- dealers will also have in this exhibit un-

vices. This list will give the names of the parallel programmes to in tin win t, the names of the exhibitors, the Il cost where the goods may be procured. and the ordinary retail prices for cases and and his wasters will be strictly prohibited from ex reising any influence in guiding the taste of the public with respect to choice of my ampl, and to protect exhibitors from any posibility of self-interest on the part of the lessee, the service charges will I maif rm, regardl as of the cost of the o ls as, for i some, ten cents f r pint bettl of win , twenty cents for quarts and it ill r r gulati us for sweet wines and rat li submitted in smaller parcels. No visit r, d aring to sample any of these exhibits, will r quirel to partak of Juy the lunch dishes provided in the cafe to us of which will be at his of tion and f r he conv oi nee and the better to assist

Si samples of excibits will be display d in the main hall; a Ishrplas samples wil 1 st r d, and an account k pt to the xhillitors. This d will be charged with an sample believed in exact accordance with the trans of exhibitors, and will be allow I as profit the acrvice charge as heret fore explained, and whatever profit may b derived legitimately from the dishes served to these requiring lanch. Cash s tilement f r all samples sold will be required b fore the close of each day, so that the efficers of the Commission may transmit Ir mitly to exhibitors any funds derived fr m the sal s of their goods. In order that this system of opening markets for prolucers shall not come in competiti n with I gitimate trade, rules will be estab ished providing that no d-liveries of any goods shall be made, but that all enquir rs who wish to purchase additional quantities, shall be referred to the agencies having these goods for sale. Moreover, exhibit its will be required, when noting th ir retail prices, to fix such prices, so that unfair e my tion with the trade shall not be nudertak in on the part of the Commissi n; it 1-ing generally understood that a retail price is subject to a discount to the

It is expected that by this method our local citiz n , as well as also visitors and trad m n, will be enabled to become faminer with the various qualities of our nu ier is viiit g s, and thereby he able to mak selections according to tastes and

Tr desmen of all classes will be greatly benefitted, I their making known their iran's aid in countring knowledge of the al ictist. But for the present time the two greatests rvic s to the public will be in enabling the individual producer to show grod ict fextracrdinary merit, which might oth rwis f. ll into the general pot of the wholesale d aler, at prices which would dis courage him from attempting to reproduce their exceller ics in another year, and aff rdi g to the individual consumer an oppert nity t cultivate his taste by corrupting rainy diff r nt products which he could net etherwis knew. At the pres nt time, these ir licers, who have made special lowing is an outline of the general plan efforts to improve the high quality of vintages, hav been much discouraged becans they find, after suc eding in a more or less high d green market for their goods, unless they I it to have them lost in an e an of inferi r pr ducts without name or brand, excit as neh as the wholesale duler e es s to give them. Wholesale

1, trude, and none with its a cause to c mplain, exclining the se whose ir lucts or m rehandise are too inferior to 1 ar c parison or gain faver on their own merits

All producers and dealers will be r quested immediately to prepare exhibits, t be placed in the hall carly a xt in wth, and to signify which on s they desire to have sampled in the cafe. All such so it must necessarily be absolutely pure, to f a quality suitable for e usumpti ...

One portion of the hall will have titioned off for the xe sive us of producers, dealers and brokers, to serve as wine exchange, where wholesale lets may be shown by sample, whether new or 1, without charge or fee, and where reord wines for sale and sa's off sted may ! kept. In this department, win broke may keep lock-bexes f r the c ny rico at their customers. It is possible, also, that a system of wine sales by non new become a feature of this departm at. In this department, also, will 1 . provid d full facilities for the rais a and drieler p

A portion of the enter of the had will he devoted to the uses of a public reclingroom, in which trade papers relating to viticulture, etc., will be on file. A stand will be provided as soon as practical a where pure grape juice, nof rmented, will be retailed by the glass, in ord rt popularize the well-knewn gray cur-This can be conducted both Winter and Summer with the aid of cold storage and condensed must. The Commission has agreed to a lease of this privilege to a responsible party.

It is expected that producers and dealers will co operate in every way possible t make this exhibit and exchange a great success, and that the result, within two or three years of its management, will ar ve to be worth many millions of dollars to th State, through a revival of interest in grape-growing. Producers and d al rs are already preparing samples for exhibition, some of them being very enthusiastic in estimating the greatness of the trad which may be expected to follow this new institution. Now is the time for these who have fine qualities of wines to baptiz them before the public.

THE New York Herald of the 4th it st , in writing of the young German Emper r, says: That the Emperor's activity and cares of State has not destroye his app tite is vouched for by the mean of his breakfast at Hamburg:

> Turtl soup. Oyster patties. Tournedos aux t uff s. Pates de foie gras, Celery, Cheese, Hors d'o uvies.

The wines were sherry, Rau nthal a Berg, Chateau Dansac and Clure in la R se, with Most and Chandon for a wi 1up.

THE EXPORT of wines from France linning the first eight months of 1555 w s 140,154, 000 francs wirth, against 152 5st 00 sar time last year. The injert of wines has We quit , 77 Me for R s of Peru, 75. been 297,251,000 francs, against 1-1,310, Coo. The export of brandy in casks through the port of Bords un has, at the 1-1 -1 1:5 - lov fr Cornichen; Wine 178,782 went to the Unit d States on the Zi finde, \$15 for Mission and \$1160 18 for

A RELL OF WEIS' C uv ntion, held a' C on the 21st inst., considerable in w giv n t d'senssing the culture of the env. At address was d livered on the subject by the Secretary of the Italian Chambr of Commerce, which was of a nest exhaustive character, including deseri ti as of v ri ti s and methods of calt reantei making. Other opinions were x r . 1 f th 1 st vari tos of olive for nativity here. Mr. Gray, of Oreville, give I s up it he on the growth of clives in the footbal s, c aiming success even without irr itien.

T F WINES of the Purity Company were re by test I at 383 Battery street by II is urs in this city. The results wer exceed right satisfactory, and all presnt xi ressel the fullest confidence in the fatur of this winderful discovery,

C. H. M Arre and A. S. Hallidis have I on appeal to demmissioners to fit up the Canform wine exhibit for the Paris Exposition. They will occ py a portion of Platt's Il i'l when it opens, under the auspices of th State Board of Viticultural Commission.

THE FIRM in Phila b lphia, which represents the vineyards and distillery at Geyservill , Senoma county, and Messrs, Bering r Br s., of St. Helena, Napa county, has pen da I ranch offic in New York city.

### Sugar Quotations.

Chif min Sugar R nnery price list dated N ven ber 121 Circ A. Pat Cube, 71, c; Circle A Crushed, 71, : Fine Crushed, 71, c; Extra Powdered, 7 .c; Dry Granulated, Confectioners' Circle A. 63, c: Extra C. 5 .c. Golden C. 5: .e; Star Drips Syrop, in bbls . 20c; hi do, 221 c; 5-gall kegs, 271 se: 1 gall tins, 371 se per gallon,

Price list of the American Sugar Refinery da ed November 10tl; Extra Fine Cube, in blus, 71, c: Circle A. Crushed, 71, c; Fine Crashel, 7 , .: Powdered, 71, e; Extra Fine P wd re 1,7 . ; Dry Granulated, XX 67.c. Dry Grunn sted, 6°,c: Confectioners' Cir-4 A, 6 , 1; Txtm C, 5 ,e; Golden C, 51,e; Ar rian Gold n Syrup, in bbls, 20e per rallen.

### WHOLESALE MARKET.

of the ne ... en ar if r large hits to the whole CA IF NICESPAN

1 . S. C. art is at I E abt 4, 25, 50 and 75 cents 

f t rs. per r ... 52 00 ar 2 (0 2 25 2 (0 2 25 1 40 a 1 50 1 40 a 1 50 1 75 2 00 1 10 a 5 i representations

ters - 30 seat, 23g % s 1 40 - 1 50, 6a is, 4 50c

s for traps so a state, 333, 10 4

In the Sin Plancisco Grape Market 9 e st bey for Mustats and Malagas, 5th r e at h x f r Tokay, 75, 91 7 box for Versame time, been 2,100,229 to of which to pay so. It is ton for second crop Muscats.

#### OUR NATIVE WINE SHIPMENTS BYSEA.

PER P. M. S. S. CO'S STEAMER SAN BLAS, NOV. 13, 1888.

TO NEW YORK

MARKS,	SHIPPERS.	PACKAGES AND CONTENTS.	OALLON 8	VALUE
և Ի	Carpy & Co	25 barrels Wine	1,250	\$500
**		I keg Wine	10	10
K		10 barrels Wine	506	202
E V		30 barrels Wine	1,515	606
L W	4.6	6 barrels Wine	302	165
A > & Co		1 barrel Wine		
OS		1 half-barrel Wing		
K R		t half-barrel Wine		
' V	. 44	2 barrels Winc	206	123
5 M		3 barrels Wine		
r F		3 half barrels Wine		
\ B		2 barrels Wine	311	167
Hros	44	10 barrels Wine	509	203
A in diamond	Kohler & Van Bereeu .	150 barrels Wine	7,398	2.940
Py		103 barrels Winc.	5,121	1,631
) F		2 barrel. Wine)	-,	
å+		1 half-barrel Wine	126	62
in C	S Lachman & Co	2 puncheons Wine	324	162
64	66	1 barrel Wine	5	30
& Co	Williams Dimonds Co	99 barrels Wine	4,922	1.215
11		12 barrels Winc	600	240
G		1 barrel Wine	50	25
Bros		2 balf-barrels Wine	57	30
Total amount of Wine			24.500	88,935

#### TO CENTRAL AMERICA.

E T, Amapala	John T Wright.	112 kegs Wine	144	\$116
L S & H, San Juan del Sur	16	1 keg Wine	10	10
E C, La Libertad	- 64	6 kigs Wine	72	54
	44	9 kegs Wine		69
J E. Amapala	34	8 kegs Wine	72	56
F M Z, Corinto	J Gundlach & Co	7 half-barrels Wine		128
J L. Guatemala	+1	16 cases Wine		164
F Z Co, Corinto	E Dreylus & Co	S barrels Wine	272	275
J L D, Guatemala,		6 half barrels Winc	166	125
JR & M L, Amapala		2 barrels Wine	96	47
A D. Amapala	14	2 kegs Wine	30	50
L& L, Champerico	Schwartz Bros	30 cases Wine		117
B & Co. La Libertad	Bloom, Baruch & Co.	2 barrels Wine	103	67
E T. Oces		36 cases Wine		119
A 1'. Champerico	Urrela & Urioste	10 cases Wine	l l	75
RAS, Corinto	Cabrera, Roma & Co.	1 barrel Wine	49	34
		4 cases Wine		13
lotal amount of Wine,	126 cases and		1,287	\$1,499

#### TO MEXICO.

LG&C, Tonala Cabrera, Roma & Co., 14 barrels Wine	686			
Y M, Manzanilla L F Lastreta 1 barrel Wine	49	25		
P E, San Blas W Loaiza 10 kegs Wine	208	109		
" S casks Wine	476	185		
A H C, Acapulco Urrela & Urioste 20 cases Wine		36		
2 casks Wine	119	46		
B S, Mazatlan I Gutte	250	150		
A D & Co, Mazatlan Fredericksburg B Co., 1 cask Wine	60	40		
" 10 cases Wine		30		
T, Mazatlan Thannhauser & Co 2 cases Wine		24		
P.R. Manzanilla	54	35		
J S M, Maozanilla " 3 half-barrels Wine	83	75		
B S, Mazatlan 2 half-barre s Wine	55	40		
J M R. San B as J Gundlach & Co 14 kegs Wine	216	137		
Total amount of Wine, 32 cases and	-2,2:6	\$1,64		

### TO HONOLULU--PER STEAMER AUSTRALIA, November 6, 1888.

F A S & Co				
H J Arpad Haraszthy & Co 5 barrels Wine				
45 kegs Wine				
" 12 kegs Wine 120 85				
" 5 cases Wine 30				
W M G J Gundlach & Co 1 barrel Wine 47 28				
W M G J Gundlach & Co 1 barrel Wine 4-				
L& Co				
N. M. J. Pinet 2 half-casks Wine. 70 35				
L & Co Lachman & Jacobi 5 casks Wine				
" [3 karrels Wine				
Lin diamond Stachman & Co (3 harrole Wine)				
Gin diamond Donald Gedge 180 kegs Wine				
di diamond de decentrati l'O see a Willer de l'All 10 see a Willer de l				
" 40 cases Wine				
G W M & Co				
Total amount of Wine, 59 casés and				
21.3				

### MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSZI.	. R10.	GALLONS	VALUE.	
Mexico	Alej oder	Steamer	1,755 1,697	\$880	
Victoria	Umatilla	Steamer	99	\$88 <sub>0</sub> 1,31 65 36 225	
Japan		Steamer			
			4,050	\$2,524	
Total shipments by Panama steamers 21,706 gallons \$9,333					
Tota! Miscellageous shipmeats					



Gopher and Squirrel Exterminator IN 1-LB. AND 5-LB. CANS.

## Description of the Blueberry.

The Blueberry is a valuable fruit, and is a reliable fruit to grow in our northern States where the more tender varieties of fruits winter-kill. It is perfectly hardy, having stood 40 degrees below zero without showing any injury to the most tender huds. It ripeus in this latitude about the 1st of July, and is borne in clusters like currants; shape, round; reddish purple at first, but becomes a bluish black when fully ripeued. The flavor is equal to the raspherry, a very mild, rich sub-acid, pronounced by most people delicions. It may be served with sugar and cream or cooked sance, and is splendid for winter use. The plant seems to flourish in all soils, and is a prolific bearer. It grows very stocky and makes a nice hedge. The shinning dark green leaves and the blue fruit making a pleasing contrast. The demand for the fruit is great, and usually brings 15 cents per quart. They commence hearing the first year after setting out, and yields a full crop the second and third year after setting out. They are propagated from suckers and root entitings. The plant is about the height and size of the currant bush, and very stocky, holding the finit well up from the ground. Plants should be set in the fall and spring, in rows two or three feet apart, and five or six feet between the rows, making a perfect hedge, and no grass or weeds should be allowed to grow between rows.

#### PRICE LIST:

1 Dozen Plants by mail, 60 cents. 2 Dozen Plants by mail, \$1.00

100 Plants by Express, \$2.50 1,000 Plants by ex. or freight \$15.00

How to send money:—I would prefer to have money sent by American Express order, all sums of \$5.00 and under, cost only 5 cents, and if order is lost, money will be promptly refunded to sender. If not convenient to obtain express order, money can be sent by registered letter or post office money order or postal note, drawn on Portland, Mich. Postage stamps will not be accepted only from our customers that cannot obtain an express order—only those of one cent denomination wanted.

Plants are carefully packed in damp moss and delivered to express or freight office, for which I make no extre charge.

Plants are carering partial of the Property of

### FANCHER CREEK NURSERY, FRESNO, CAL,

OFFERS AN IMMENSE STOCK OF

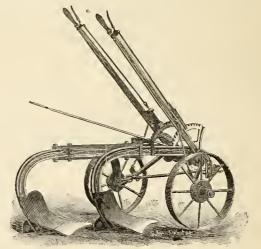
### Fruit Trees, Grapevines and Ornamental Trees, SPECIALTIES:

White Adriatic Fig, Ten Tested Varieties of Table Figs, Olives Pomegrenates, and also a Fine Collection of Palms, Roses and Oleanders.

A five-pound box of White Adriatic Figs sent by express to any address on receipt of \$1 50. Send for Fall Catalogue and address all letters to

F. ROEDING, PROPRIETOR, FRESNO, CAL.

### PEERLESS GANG PLOWS.



### SEASON OF 1888.

Have Heavier Beams and Made Stronger Throughout, Than Heretofore,

The Only Steel Beam Gang Walking Plows which will not Clog in Heavy Stubble or Weedy Land.

### TESTIMONIALS

Light draft, strong and durable.—M. Murray, Livermore Has given entire satisfaction.—E. H. Farmer, Gilroy, Superior to them all.—A. J. Hnff, San Lucas, Easily managed, strong and durable.—H. Carpenter, Suisuu.

For further information, prices, etc., write to

### BAKER & HAMILTON,

SAN FRANCISCO SACRAMENT

Or 240 acres in one place and 20% in the Will sell at a bargain,

For particulars apply to

W. A. HAYNE, Jr.,

### OLIVE RANCH OF 448 ACRES, FARM FOR SALE.

Two hundred acres in Sonoma County, other. Sold together or apart, having t n minutes drive from railroad station.

11 000 clives planted, and come, not to 11,000 olives planted, and come, have to vin s. The balance rich river bottom, and bear in 1887. Fully equipped with build- rolling land capable of the highest cultivaings, agricultural tools, horses, etc. Sixty tion. S v rd never failing springs and tons of hay and plenty of grain; fine str am plenty of oak and redwood timber on the of water. Title perfect. Situated in Santa Pr 1 rty. Good house, large barn, and out bookings. Scenery, climate and roads Barbara county, near Los Ohvos depet. in xe iled. Good fishing and hunting in th n ighborhood all the year round. One f the most elegant and profitable suburban hen sin Northern California,

W. A. HAYNE, Jr.,
In pir of "W. H.," office of the San

INCORPORATED 1881.

460 ACRES

## TREES AND PLANTS. CALIFORNIA NURSERY CO.,

NILES, ALAMEDA COUNTY, CAL.

### LARGEST STOCK ON THE PACIFIC COAST

Fruit Trees, Olives, Oranges and Lemons, Nut Trees, Wine and Table Grapes, Berry Plants, Shade Trees, Evergreens, Shrubs, Roses, Etc., Etc., Etc.

FOR COMPLETE LIST, SEND FOR OUR NEW CATALOGUE,

- - CALIFORNIA NURSERY CO. JOHN ROCK, Manager. Niles, Alameda County, Cal.



CALIFORNIA WINERY AND SECURITY Wines Stored and Loans Negotiated on Pure Sound Wines Only.

A. PELLET of St. Helena will superint and the careful treatness of the Wines stored, and will cates on maturity of their assumences,

D. J. CASULIA. Secretary WAREHOUSES - Formerly Sugar refleries, Eighth and Brannan Sts.

# SAVE MONE

By Ordering Your Groceries

CLUFF BROS

Largest and Cheapest Cash Grocers on the Pacific Coast.

ALL COODS PACKED AND SHIPPED FREE.

Send your address and have their M nthly Price List mailed regularly to you, ET SEND A TRIALTORDER, 72

CLUFF BROS.

9 & 11 Montgomery Av. 40 & 42 Fourth Street, 4 i.i & 411 Montgomery Av 401 Hayes Street,

SAN FRANCISCO, CAL.

### L. G. SRESOVICH & CO.,

505 and 507 Sansome St., San Francisco, Cal.

### SHIPPERS AND COMMISSION MERCHANTS

IN CREEN AND DRIED FRUITS, NUTS, Etc.

DESICCATED COCOANUT. Mainfest rise way day. Ask your Green for Pioneer brand. It is the bost and though stand the world. Mobils awarded in all Pairs where exhi i d.

California's Million Dollar Company:



### OF SAN FRANCISCO, CAL.

JANUARY 1, 1875.... JANUARY 1, 1880..... 750,000 1,160,017 00 JANUARY 1, 1888..... ... 1,000,000 2,181,925 18

Losses Paid in Twenty-five Years, \$7,500,000 00.

D. J. STAPLES, President, ALPHEUS BULL, Vice-Presiden.

WM, J. DUTTON, Secretary. B. FAYMONVILLE, Asst. Secretary.

# JOHNSON-LOCKE MERCANTILE COMPANY,

COMMISSION MERCHANTS.

SAN FRANCISCO.

### Sole Agents Pacific Coast.

Royal Baking Powder.

Kingsford's Oswego Starch, Walter Baker & Co's Chocolates and Cocoa John Dwight & Co's Soda.

We will offer a full line of other Grocers' articles shortly.

### 300,000 FRUIT TREES.

## & BEEBES' NURSERIES

(ESTABLISHED 1852)

We offer for the season of 1555-59 a large and very complete assortment of FRUIT TREES grown absolutely without irrigation.

Also Ornamental and Shade Trees, Nut Trees, Orno, and Le o Trees, Sell Fruits, Grape Ve Evergreens, Hedge Plants, Shrubs, Roses, Bill , Sec s, t ., t .

LARGE STOCK OF OLIVE TREES, ALL SIZES. JAPANESE TREES AND SHRUBS IN GREAT VARIETY,

Correspondence Respectfully Sulicited

### TRUMBULL & BEEBE,

419-421 Sansome Street,

CALIFORNIA

SUBSCRIBE FOR THE SAN FRANCISCO MERCHANT

SAN FRANCISCO.

#### GRAPES IN FRANCE.

The following interesting article on wine in France, and how the grape crops are gathered, is contained in a recent issue of the Pall Mall Budget:

A visit to the Pantheon, the central depot in London of the biggest wine merchants in the world, is the subject of the following article: The Pantheon has seen many changes in its varied career, but it had sown the last of its wild oats when it passed into the hands of the Gilbeys. The ground floor, which was once dedicated to that lively goddess, Terpsichore, is now a large printing establishment, where billions of labels and millions of documents relating to the trade are turned off in the year, The cork-cutter has a habitation here, too. and a busy bevy of girls are stamping them with the trade mark, Below them, again, run the catacombs of the Gilbeys-vast, gloomy, damp and funereal, where I should he sorry to say how many gallons of good wine are stored-wine in single bottles; wine in magnums; wine in Jereboams; wine in Rehoboams. To the uninitiated l may explain that a Rehoboam holds eight ordinary bottlea in its capacions interior, and is rarely met with in real life. But I was informed that these vaults were trifles compared with the great stores at Camdentown where the real business is done.

"Let us take you," say the Gilbeys, "in imagination to the banks of the Gironde, As we approach the estate we find the vintage in full progress. Nearly a hundred mea, women and children, in bright-colored dresess, are engaged in gathering the grapes. We stop to examine the fruit, which presents an even ripeness and softness of the skin, which latter scarcely requires pressure to yield up the luscious contents it incloses. From time to time a dreamy, soft-eyed pair of oxen, mostly beasts of great size, pass along, bearing on a rustic-looking cart two tubs heaped up with fresh gathered grapes, each tub representing a quantity of fruit which an English gardener would look upon as a good yield for a fair-sized vinery. Here, however, these tubs keep passing to the presshouse during a fortnight or more."

The grape gathering is executed as rapidly as possible. The inhabitants of the vine-growing communes being insufficient for the labor, other grape gatherers are sent from the neighboring communes and departments. The men's wages are ordinarily I franc 50 centimes per day, with food. Sometimes it is found necessary to increase the price when the operation of grape gathering must be carried on more rapidly than neual. The wages of women and children may be valued at half the amount of the men's wages. The wine-press men receive some centimes more than other hands, Thirty years ago the wages were only half what they are at present. This reunion of workmen is termed "maneuver." Every twelve or fifteen rows has a director of "maneuvers;" his task is to hasten the gatherers, to watch that the grapes are not left upon the plants, to see that only those that are ripe are picked, that care is taken to pick up the fallen grapes, and to observe that neither leaves nor anything else improper is allowed to fall into the baskets (paniers). The grape gatherers are placed in the following manner: The women and children are employed to cut the grapes; a cutter is given to each row who gathers the grapes and puts them into a wooden basket.

ket emptier, receives from each grape gatherer his full basket, which the cutter exchanges for an empty one, the basket emptier upsetting the grapes into a basket (a little wooden bucket containing about twenty-four liters). In the meantime the baste holder presses his grapes, taking care not to crush them. Two porteurs de lastes (or bucket carriers) are allowed to every eight vine rows. These bear little straw cushions upon their backs, upon which they receive the buckets, which they empty into small tubs placed upon a cart; these tubs ordinarily contain thirty-two buckets. In several vineyards they have modified the labor in the following manner: The porte-bastes are replaced by porte-hottes, which, in rows of four and four, according to the harvest, or in rows of five and five. receive directly from the cutters the contents of their baskets, and convey them in the douilles placed upon the carts. The proprietors who have adobted this alteration are satisfied with this mode. As soon as the tubs, or douilles, have arrived at the wine press the pressmen receive them and empty them into the egrapper, which serves to separate the grapes from the stalks.

Arrived at their destination, the contents are emptied into a long, low wooden tray. The grapes are by a simple process sepa rated from the stalks, the fruit passes, almost whole, into large vats, where it is crushed simply by its own weight, and where it remains some ten to twelve days, until the skins and pips have risen to the top and the bright juice is ready to he drawn off below. The wine thus "made" -though, in truth, that word is searcely applicable to so simple a process-is then drawn off into hogsheads and carefully stored for three, four or more years, previous to consumption or botting.

The most interesting part of the work, the battle with the phylloxera, is in perpetual progress, and has cost Franca the huge sum of £400,000,000. How do the vine-growers meet the attack of this terrihle little foe which has cost France such an enormous treasure? It is said on good anthority that one female " phylloxera on the leaves" born from the winter egg, has, at the end of May, laid 5,000 eggs. This family of 5,000 produces by the end of Jane 250,000 more phylloxera; the third generation the number would reach 62,500,-000,000, and there are five or six generations in the year. These insects go to the root of the matter, bidding adieu to the leaves in June and journeying to the roots as rapidly as possible.

There are several recognized methods of conducting the battle. The one that is adopted on Messrs. Gilbey's estate in the Medoc is thus described: First, a large quantity of water has to be pumped up from the river, which is distributed over the vineyard by miles of piping, laid methodically along the course of the vines. The date for the commencement of the treatment is about the 20th of March, and et that time gangs of men and women are employed preparing the holes (cuvettes) for retaining a solution of snlpho-earbonate around the root of the vine, until the whole has been absorbed by the soil.

The pump and tubing having been put in position the work of the treatment is carried out by six men, each followed by a woman having a supply of ten to fifteen pints of sulpho-carbonate and a measure holding a little over two ounces. In order to insure the methodical working of the A young man called vide-panier, or bas- treatment the signal to commence is usn- grapes are gathered in the month of Oc- Europe and the Eastern States.

with the steam pump, and each man then starts by filling the cuvettes with a quantity of about two gatlous of water, into which is poured the dose of sulpbo-carbonate of potassium decided upon, a further quantity of water then being added, until the cuvette contains in all from about three and a half to four gallons of liquid.

The Chateau Londenne, formerly belonging to the Viscomtesse de Marcellus, was purchased from her 1875 by the Gilbeys for the sum of 700,000 francs, and they have since the purchase expended a further sum of between 600,000 and 700,000 francs in the formation of a harbor on the Gironde, and the establishment of large and important farm buildings, the erection of cottages for workpeople and the building of a new cuvier and extensive chais, these latter capable of holding 10,000 hogsheads.

This firm is naturally very proud of the gold medal which was awarded to it by the French Government for the best cultivated vineyard in the Medoc, an honor that is without precedent. Next year those carious about vineyards will be able to see a remarkable model of the Chateau Loudenne at the Paris Exhibition.

#### TEALIAN WINE.

Vice Consul Pariender, in his report on the Barletta wine trade, says: "The total amount of wine exported during the past year, inclusive of the traffic by rails, was of 75,000,000 liters, valued at 25,000,000 francs, this being an increasa of fully 5,000,000 francs on the preceding year. The Barletta wine is not fit for direct consumption. It is heavy stuff of dark violetred color, containing 14 to 15 per cent pure alcohol. It is used in Franca for mixing with light French wines, and for this purpose it is also brought in Germany and Switzerland, though in considerable less quantities. Wine is the only product of this district, and its importance is realized from the fact that the cost of a piece of land with vineyards is ten times as much as that with cornfields or meadows. The duty of 20 francs per hectoliter imposed by the French Government on Italian wines has made it impossible for this country to fight in French markets against Spanish, Algerian, Portuguese, Greek and Hungarian wines, which pay only the old 2 francs per hectoliter. An immense quantity of wine is now here without buyers, and, naturally enough, the price has so fallen down that it scarcely pays the expense of gathering the grapes. While, in the beginning of 1887. the cost of a hectoliter of Barletta wine averaged from 30 to 40 francs, it now scarcely reaches that of 8 to 10 francs. It is impossible to anticipate the consequent of such a ruinous state of affairs. It is certain, however, that if it were to last, this district, considered only a few months ago one of the richest of Italy, will for a long number of years be one of the poorest. A sort of brandy, " eau de vis de mare", is produced in this district from the dregs of pressed grapes. It is a crystal white liquor containing 50 to 60 per cent pure alcohol and smelling heavily. It is sold in Frence and North Italy, where it is used for direct consumption among poor people and for making spirits and cognac. The quantity produced, of nearly 15,000,000 liters, goes three-fourths to North Italy and one-fourth to France. The process for making it is very simple and old-fashoned. The pressed

ally given by means of a whistle connected tober, and preserved in enermous underground reservoirs, where they are protected against the air. During the winter they are brought, as wanted, from the reservoirs into hig copper boilers, where they are mixed up with water and boiled until the alcoholic vapors form themselves. The vapors are then condensed, and the produce thus obtained is brought to market without further manipulation. The dregs and water left in the boiler are then pressed and the water substance thus gained is led into wood reservoirs, where it forms, by cooling, another important article of export-namely, haltrefined tartar, of which about 450 tons are thus produced every year, worth 1,000,000 francs yearly, and which are chiefly exported to Germany, France, the United States of North America, and England also, though in very small quantities.

#### THE RAISIN CROP.

California has good cause for feeling jubilant over the raisin pack this year. Not alone for the increased output, but, observes the Los Angeles Commercial Bulletin, for the preference with which they are being received at the East. Boston and New York deslers are willing to and are paying more for them than for Valencias. The Calitornia raisin ia this year more uniform than ever before, is of better color, freer from dust, and the stems are unusually bright, thus evincing that greater care has been taken in coring. The result is, far better prices are obtained, and that a feeling of confidence has been established among the Esstern buyers. London Layers are bringing 15 cents per box more than last year, although the pack is very much larger.

A significant fact in connection with the industry this year is that grape growers instead of curing their own raisins have turned them over to regular packing houses and this had not a little to do with the great improvement noticeable.

Localities have but little preference over one another. The crop of the Santa Ana valley is good as far as quality is concerned as that of Riverside, and both are inferior to that of Fresno in point of size of berry and quality. The output in the Santa Ana valley may be estimated as about 60,000 boxes, a very large increase over last year, though not by any means as large as was expected. The crop of grapes last year was very much larger than this, but rains occured just at the wrong moment and the raisin pack was reduced to a minimum. The total pack of Southern California will aggregate somewhere between 300,000 and 350,000 boxes, of which 200,000 hoxes must be credited to San Bernardino county. The proportion of "layer" raisins in Southern Californs is much larger than ever before, as the berry clings to the stem better; the only reason we can attribute this to is the fact that they have been more carefully handled.

As an evidence of the high esteem in which California raisins are held in the East, we note the fact that they are being sold to a large extent without sample. Heretofore a sample had to accompany every offer, but now brands which were established last year require only a guaranty as to their quality to be readily taken. This is indisputable evidence that the industry is on a better footing than ever before.

THE MERCHANT is largely circulated in

#### FOR WAREHOUSING BRANDY

The full text of the new law extending the warehousing privileges to fruit brandies, with the reasons for its passage are as follows, viz:

An Act to provide for warehousing fruit

Be it chacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the provisions of an act entitled " An act relating to the production of fruit brandy, and to punish frauds connected with the same," approved March 3, 1877, be extended and made applicable to brandy distilled from apples or penches, or from any other fruit the brandy distilled from which is not now required or har after shall not be required to be deposited in a distillery warehouse: Provided, that each of the warehouses established under said act, or which may hereafter be established, shall be in charge either of a storekeeper or of a storekeeper and gauger, at the discretion of the Commissioner of Internal R venue.

Approved, October 15, 1888.

In the Senate of the United States Senator Vauce, from the Committee on Finance, submitted the following report:

The Committee on Finance, to whom was referred the bill (S. 70) to provide for warehonsing fruit brandy, have had the same under consideration and report;

The law relating to the warehousing of grape brandies was passed in order to grant privileges to producers whose necessities were identical at that time with thuse of the producers of brandies now derived from other fruits. The object of this law originally was to enable distillers of grape spirits to keep in bond, without paying tax, for three years, their products until they should be sufficiently matured for the market. Prior to the passage of this law the distillers of grape spirits were required to ment of law imposed anch operous daties upon producers that many were prevented from utilizing wines which were useful only for distillation, or which constituted surplusage in the market on account of the and the quality of the fruit. heavy hurd-n imposed upon them. Only a few who commanded sufficient capital were able to pay this tax at that time, as sometimes for a coneiderable period in order to mature them for consumption. that time wine growers, especially in California, were much disheartened and in in many cases also were throwing away or destroying their wine products which could value of the law which was passed to enable them to place their brundles in special bonded warehouses was speedily demonatrated; the interests of vine growers immediately revived; instead of uprooting vines, more were planted; many distilleries were established, and the market now is well supplied with choice and well matured products. Distillation of brandy from fruit enables the producer to utilize material It enables the vine grower to otherwise. obtain profit from inferior goods which are and also to derive some benefit from such waste substances, as are left over after expressing grape juice from skins, seeds and other residuum of the wine press,

Practically the same necessities now pre- cess is assured in many ways.

vail in all fruit growing districts. quantities of many kinds of fruit, more es pecially apples and peaches are being utilized through distillation, but owing to the fact that no bouding privileges are extended to this class of products there is not only great ha dship experienced from the levying of the internal revenue tax mean the same but also great incentive to fraud. It has been observed also that where the tax on spirits intended for consumption is levted and collected at the time the goods arfirst produced, and the excessive cost of the some, owing to the imposition of the tax, causes holders to force them upon the market long before they are matured and fit for use as beverag s. It is, therefore, greatly to the interest not only of the producer and the Gov rument, but also of the consumer. that this bill extending these bonding privileges to the producers of fruit brandies should be cuacted into law. As a means to prevent fraud it would certainly result in an increase of public revenue, and is therefore, properly spenking, a revenue meas-

This measure passed the Senate in the last Congress Forty-ninth) and your committee again recommend its passage.

### REMARKABLE PIELD OF GRAPES.

It is but four years since experiments in raisin growing in Fresno county indicated that the business would prove a success. The vineyards at that were principally located in the vicinity of Fresno. All that time our enterprising town was usual alluded to as "Selma Switch," and we had just achieved the proud distinction of having a postoffice at this place. Land own-rs were busy building ditches and putting their lands to orchard and alfalfa. Since that date more attention has been given to the culture of the vine, and more especially the raisin variety. The lands about Selma have been found to be admirably adapted pay the internal revenue tax on the same to this industry, and the results of the at the time of distillation. This require- young vineyards hereabouts are of the most satisfactory and flattering character. It is now evident that when they reach full bearing they will compare with any in the State both as to the amount produced per acre

As evidence of this, ficts attention as called to the Maple Part Vineyard in the Wittram Colony west of Messrs, Roddy & they were compelled to hold such goods Nobman put out eighty-four acres to raisin vineyard. They used cuttings for that purpose and enlitvated the vin yard in the usual way. This fall they have harvested and sold from that vineyard thirty six tons some cases were uprooting their vines and of raisins, for which they received 5 cents per pound, or \$3000 for the whole. This shows a gross income of \$42 55 per acre not be otherwise utilized. The practical from a vineyard that under ordinary curcumstances could not be expected to bear at all. The usual estimate of the expense of setting ont an aere of vineyard, when cuttings are us d, and of bringing it to bearing-say three years is an average of \$13 per annum. It will therefore be seen that this vineyard has more than paid expenses the present year. The crop should be more than doubled the next year. It is plain, then, that lands in this vicinity put which may fail to find profitable markets to vineyards will pay. It is also plain that Selma will soon have its packing-houses to handle the fruit-will furnish employment not equal in quality to standard articles, for women and children at light work in packing fruit, and add materially to the business prosperity of the town. The boom in Selma lands and lots has not begun.
The future is full of promise in all respects.
No one need fear for the future, for suc-

### SONOWA GRAPE GROWERS.

D. B. Wier, a correspondent of the Rea Press, in an article on Sonoma county ex presses the belief that its fame will in a joint measure, depend on fruit and wife-

"It is now there," he says, "the wine grapas a crop is as staple as the corn crop in Central Illineis. The wine grape is king nearly all over the country. But unfortunately this season the king is in rags. The prices for wine grapes are to low to support his court; his surplus revenue has desappeared. The average price for wine grapes this season is \$8 a ton. This price gives about \$20 an aere gross, or \$12 t \$11 an acre net. And even this is a much better not return per nere than the average of the lands in the great prairie States. But it shows that it will not do to pay \$100 an acre for land to grow wine grapes on. This depression of prices for wine grap is is catirely uncalled for and should not be so, and results from several eansis, namely, too much poor wine, a want of preparation by the grape-growers to care for and find places for their erop, a nearly entire want of organization among grape growers for the purposes of opening up new channels of trade and other uses for their magnificent product. Want of cooperage and tank-room exists; in fact, in a measure, there is a want in every point for carying for an I disposing of the immense crop. The result is great discontagement among the wine-grape growers, and great less also, for there ar thousands of tons of most magnific at grapes that will never be harvested-grap s which, if half of them had been earefully dried and placed on the world's market, would had brought at least double the price that the wineries can afford to pay for them with the present low prices of wine."

"I found no faults with Sonoma's clumkte, soil and acenty, but I did with her wine and fruit growers in the points that they do not generally take and read the papers that are publised in the interests of their professions." Especially is this true of grape-wine growers. They grow the grapes and d. pend entirely on the winery to give them a market for them, Wineries are not plentiful enough; they have not kept place with the continual increase of production, therefore the growers are completely in their power. The wineries can get all the grapes they can possibly handle at any price they have the mind to pay above the cost of picking and hauling. The growers cannot turn their grapes into wine; they are not prepared for it, so they are completely at the mercy of the wineries, and they must sell; they must have money."

"This is a very unfortunate position for a great class of people to b in. We cannot, perhaps, blame the winery-m n, for th reseems to be an overstock of win , especially of poor wine, and wine sells slowly with no relief in the future in sight. The leading wine grape, the Zinfaud l, I am confil ut from my knowledge of the mark is and tastes of the people of the Eistern Sat's will make a dried fruit that would find an immense and ready sile there as dried fruit -dried grapes, not raisins -at a price that would bring the grape grower at least double the price the grape-growers of Somoma county are now getting.'

"Both wine grapes and table grapes give a fine crop, somewhat shortened by amburn and that one little shower of rain. This shows conclusively that Sonoma county wants no summer or early fall rains,"

"Of the oth r fruits and the future prospocts of fruit growing I will write another

### PRITE PACKING.

The A d giv s th following sensible advices on the subjet of fruit-packing.

The habit of packing fruit with the finest fruit at the top, while that at the bottom of the pickages is small and inferior, is not e aif is I to this country, as may be seen by the firagn papers. Abtter from a Louden writer to the Albarle South Australia) Obser r, states that the writer has watched th shipm it of fruit from the Colony to the English tarket, and the packing is dishenest in every respect. The boxes are rough, and from the first glines would be set down as containing a cheap quality of goods. Apples were rolled in wall-paper if red and gre n, and in many cases the coor had been communerted from the paper to the front, spoiling it for market. fu cases containing apples nearly four inches long, with beautiful c lor and smoothness, were windfalls of ab at two meh s in eirenmferene - miscrable little things, fit only for swine. This, of course, spoi ed the sale, and eases that would have brought 23s, or 24s, sold for 16s, or 17s This is a point r to all of our fruit-packers in this country, and should be profitted by The grower who picks his fruit to sell at first-class prices, and in the bottom of his eases places small, inf rior fruit for the purpose of gain, cheats the consumer, the commission merchant, the retail r, and list of ad, himself. If you have good front, pack it tog ther and get a good price, I tung the small fruit go for what it is worth. When once a merchant finds he has recaived a poor article from the ship per, he is inclined to give that man a wide berth unless it ean be satisfactorily explained, and even then he is not satisfied to pay good prices for goods received. Honest fruit-packing will pay the best in the long run, and we hope our Western and Southern growers will not loose sight of

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I. Being used at the time of erushing the grapes into must: It regulates and secures the perfect fermentation of the must into wine.

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It concentrates and diminishes the lees, beging a larger apartity of pure wine.

leaving a larger quantity of pure wine.

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tation of young wines.

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### A FLORIDA GRAPE CROP.

I am reminded, writes Mr. T. K. Goodby, of Waldo, Fla., to the Florida Dispotch, that I promised you to give an account of my little crop of grapes for this season, and in doing so I will not go into any speculation as to what grapes ought to do, but will simply state what they have done. Three years ago last February, I set 130 vines 7x7, which gives 855 vines per acre or a little over one-seventh of an acre for 130 vones. I have gather of three paying crops from these vines and give an account of this, the third crop, as follows: Hartford prolific, 36 vines, 150 pounds; Ives, 36 vines, 223 pounds; Goethe, 36 vines, 562; mixed lot, 22 vines, 100 pounds, making a total of 1,215 pennds for the 130 vines. used 100 pounds for j lly, wine, etc., and sold the rest for \$138,31 met.

I have been growing grapes here for the past five years, and say they do much better here than in Missouri, my mative State. 1 have tested about thirty of the bading varieties and give my pr ference to the Ives and It laware for market, and to the froethe and Concord for home use. I train my vines to stakes and like it much better than trelis. I have tried both and can say that on stakes the fruit is better protected from the in, rain and birds, and the vines easier to enlitivate and manage generally.

### GRAPES IN NEW YORK.

The Grange County Farmer combats the dea of over-production of grapes. It is not over production, but under-consump ion. How can there be an over-produc ion of grapes when there are thousands of famiies all over the country who have done and are willing to pay a fair price for them? Growers must first attend to the matter of new markets. Next in so far as possible, hey should see that the grapes are sold ar easonable rates and not at prohibitory orices. The latter is often the fruitful cause f non-consumption. In Port Jervis, N. Y. ive years ago a half-ton of grapes would ompass the entire sales. This was not beause the people did not want them, but ecanse of the absurdly high prices the ealers kept them at all through the season, rrangements were made for supplying the public with grapes at a profit of about 10 euts per ten-pound basket at retail, and he consumption was trebled the first scaou. Now it is sate to say that fifteen tons re annually consumed in addition to the nantities grown in gardens.

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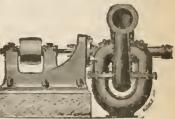
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1888.

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VOL. XXI, NO. 6.

### SAN FRANCISCO, DECEMBER 7, 1888.

PRICE 15 CENTS

### ITALIAN VITICULTURE.

THE VINE WITH CHARACTER-ISTICS OF WINES.

An Interesting Account of the Wine Industry, furnished by the Generat Italian Wine Growers Association.

The kingdom of Italy, comprising an area of [286,588 square kilometres, lies within those parallels of latitude wherein the cultivation of the vine is not only possible, but, as a rule, easy and remunera-

Separated from other European countries by the Alps, and traversed throughout its entire length by the Appenincs, the Italian peninsula possesses almost every kind of climate in which the vine cultivation can be carried on. Moreover the rainfall in different parts varies greatly, and accordingly a great deal of variety exists in the character and quality of the wines produced. The greatest altitude at which the vine may be successfully cultivated is about 500 metres above the sea level, but in some parts of the Alpine districts grapes are produced at an altitude of 800 metres, and in Sicily at 1,000; but the proportion of the wine made at these high ranges, which is occessarily inferior, in inconsiderable, and is consumed at its place of growth. Official statistics show that 82 per cent. of the population of Italy are more or less directly dependent upon the vine for a livelihood, and of these only about 151/4 per cent, cultivate vineyards between altitudes of 500 and 900 nutres, and only about 21 per cent. above that range.

About the year 1860 the oldinm broke out and disastronsly affected the Italian vineyarda. Then, for the first time, Italy became an importer of wines, its importations equalling, and sometimes exceeding, the quantities exported. The oidium, however, was soon brought nuder control, and since that period the cultivation of the vine in Italy has been largely extended; at first to meet an cularged internal demand, and of late years on account of an increased foreign demand, especially from France, whose vineysrds have not been able to supply the wants of the French people and their foreign commerce in wines since the

onfortunate sevent of the Phylloxers. onfortunate savent of the Physicsets. Lassone provinces the cultivation has, for various local reasons, fallen off, but the following table shows how largely the aggregate production has been increased, the kingdom being divided for this purpose into twelve sgricultural regions, in which climatic and other conditions of cultivation

Decrease, Increase, Rectolitres,	1,296,004 657,154 371,165 1,041,875 1,146,124 1,146,124 1,46,124 1	
Decrease,	2227,302 1,204,340 222,740 222,740 1,656,982	
Annual Production, 74. 1879.83, Hectolitres.	2.70c, 10c, 4,002, 800 2.70c, 10c, 10c, 10c, 10c, 10c, 10c, 10c, 1	
Annual Prod 1870.74. 187 Hectolitres.	2,700,186 2,601,202 2,601,202 2,601,203 599,161 1,917,340 1,917,34	
on.	Prefmont   2,70,140	
Region.	Perferont   2,700,199	

The increased internal consumption of Italy is ascribable to the increase in the population, which is estimated at 6.19 per 1,000 per annum, and to the general amelioration of the condition of the people. The following table shows the quantities of sine imported into and exported from Italy for the ten years 1877—1886:

Total. Hectolitres.	354,714 1,663,114 1,663,114 2,188,817 1,741,710 1,312,388 2,361,1,355 2,361,1,355 2,380,909
Exports. To other Countries.	246.480 285.284 285.284 285.287 215.287 401.982 461.767 461.524
To France Rectolitres.	105,018 170,753 679,288 679,288 1,426,353 1,426,353 1,426,353 1,426,353 1,426,353 1,426,353
laports. Hectolitres,	20, 460 29, 480 29, 189 29, 189 20, 111, 149 20, 200 20, 200 200 200 200 200 200 200 200 200 200
4	

The staple product of Italian vineyards, whether for home use or exportation, is Red Table Wine, and those planted of late years have been for the most part for the production of red wine, which is rapidly increasing, and in many cases at the expense of white wines. For purposes of export, when the wine required is used, as in France, for blending purposes, a strong concentrated red wine is produced, the trade in which has become considerable. It export be said of all varieties of Italian wines that their produce has increased, but in all cases efforts have been made to improve their quality, and this with a very great degree of success. In the plains of Northern Italy, where the vine culture was associated with that of other products, the results attained being irregular and unsatisfactory, the culture has been diminished; while in other regions in which the vineyards are more intelligently cultivated, and devoted exclusively to the production of wine, it has been increased, the result being a very manifest improvement in the average quality of the produce. The substitution to a large extent of factories for small producers has also contributed to this result, the factories purchasing the grapes of the small growers and fabricating a wine of uniform quality, in place of the unequal and inferior wine which small proprietors usually ture out of their presses.

Prices generally have fallen, owing to the enlarged production and to increased facilitics of transport. Their tendency, now however, is to become firmer and steadier, as increased mesus are afforded for the storage of wines. In times past the production varied from year to year very largely, as it always will vary, and the facilities for the storage of common wines being very restricted, prices naturally fluctuated to a much larger extent than would have been the case if the superabundance of one season could have been more commonly used to supply the defleiences of another.

The consumption of wine in Italy varies considerably in different districts. largest quantity is consumed in the vine growing districts and in the cities, and is always proportionate to the rate of wages paid. The average consumption has already reached 170 litres per head of the population per acuum. It will be generatly found that the consumption decreases us we get towards the south, and this is The whole Peninsula. from Venice to the

accounted for partially by reason of the wines being more alcoholic, and partially because there is less need of alimentation. The consumption of wine also varies with the seasons. For instauce, in the summer it is small, many people, during excessively hot weather, preferring beer, lemonade, sweet seid and aromatic drinks,

Foreign beer does not, however, greatly affect the consumption of wine, as it is consamed by a very small namber of people.

In Italy it is customary for the cultivators to have a direct or indirect participation in the production (this system is known in Italy as colono, mezzadro, massaro, piccolo affittuario, etc.), and the cultivator, when he cannot have the first wine, has the secood for his own use. This system of making second wines is also adopted by some of the small proprietors, who keep it for their own consumption and sell the first.

It is only a few years since the Italians have been persuaded that wine, instead of being produced only for local consumption, might be made an object of extensive trade; and the proprietors of the vineyards are now turning their attention to the best methods of giving the culture an industrial character Their first efforts were directed to increasing and improving the vineyards, and they are now looking to their cellurs, casks, and enological implements. The spontaneous movement of the country in the wine industry has been energetically helped and sustained by the public administration, which has established various institutions for the study of wine, viz., an Œuclogical School at each of the following plac 6:-Conegliano, Avellino, Alba, Cutania, and Cagliari; a wine testing station in Asti, experimental wine cellurs, and traveling professors, conferences upon the matter of prices, &c. Moreover, the Government have sent to some of the most important commercial emporiums of Europe (Munich, Lucerne, Paris, and London) qualified examiners, for the purpose of analyzing the Italian wines, and ensuring a good success for the products sent to the markets there, and also to study how to increase and establish a serious wine trade between Italy and the respective markets of consumption.

The Phylloxera has until now been less destructive in Italy than in most other wine producing countries. The disease has, up to the present, been limited to a few nuimportant localities, Sicily excepted. extremities of Calabria, is as yet free from its presence. In fact, it is reckoned that the total vine-cultivated area lost to Italy by the Phylloxera does not exceed 400 hectares, and of this the greater part has been destroyed intentionally, as a defence against the disease.

The most important markets are held once or twice a week, and sales are held in places specially selected; but what are known in France as syndicats are very little known in Italy. Agents and brokers can be found in all markets; in some there are also laboratories for analyzing. With regard to the commercial nsages of each locality, it will be most convenient and advisable to write to the Chambers of Commerce or the municipalities there.

We shall give more detailed information with regard to the twelve agricultural regions of the kingdom under separate headings; and in order that the importance of each wine department may be appreciated, we will quote from statistics carefully prepared and published by the Ministry of Agriculture and Commerce, the average production therein from 1879 to 1883, the particular average of each district, and the proportion of wine produced and consumed per head, assuming that the whole production was consumed locally. If we reckon, therefore, that in the Northern and Central provinces the consumption of wine amounts to 110 litres per head, and in the Southern provinces and Islands to 60 litres per head, we shall see what is the superabundant quantity of wine which each dis trict is able to export.

#### PIEDMONT.

During the last thirty years, Piedmont has made a considerable advance in the wine industry. A large portion of the plains which are traversed by the Cavour and other smaller canals, and which were cultivated with vines and trees together, has been abandoned, and the vine cultivation transferred to the hills and tablelands of the Appenines and lower Alps. Piedmont has, for some considerable time past, produced much more wine than is required for the needs of her own population, the surplus being sent to Lombardy or exported lated in proportion to the population, give by sea or land.

Red table wines form by far the largest portion of the produce of this district, and the wines produced between Casale and Valenza are of such an intense color, that they are used very extensively for blending purposes; but they possess less alcoholic strength than the wines of South Italy.

Dry white wines, however, are not absent from the products of Piedmont, nor are those which are classed under the head of "Special" wines, such as Caluso and Ciambava, which were once famous, but now find close competitors in the exquisite Sicilian and Sardinian wines of similar type; but growers are making very great efforts to maintain the reputation which these wines have so long enjoyed.

Asti and Canelli, two principal winegrowing regions, produce a Special wine known by the name of Moscato, and which is produced from concentrated must, also sparkling wines; but these are best adapted for preparing the better qualities of Vermouth.

The Red Table Wines must be regarded as the most important product of Piedmont, and of these the finest are Gattinara, Ghemme, Barolo, and Nebbiolo, wines which are rough when young, but atrong, and with a delicate bonquet when matured.

Dolcetto, the last being milder, but with less body than the others. After these come the wines made along the valleys and on the hills of the Appenines, as far as Novi and Acqui, which are light, full bodied, and sometimes sweet. Here may be found red wines in large quantities, to soit all tastes, and, with careful blending, to gratify the nicest palates.

The produce of vineyards situated at the foot of the Appenines are ready for local consumption within three or four months after being made. The wines obtained on the hills improve very much with keeping, the earliest ready for consumption being the Barolo, after this the Ghemme, and then the Gattinara, and Lessong. In Lombardy. these wines when between five and ten years of age are considered invaluable for invalids and those with weak constitutions,

The producers of the province of Alexandria sell a large portion of their grapes, for which the most important market in Itsly is Asti. The sales here commence at the beginning of September with Dolcetto and Moscato grapes, and end in October with the later ripening varieties such as Barbera and Nebbiolo.

Piedmont also possesses an excellent organization for distilling the wine refuse; in Alexandria especially several good establishments produce brandy, argol, and tartaric acid.

The prices of the common wines are generally moderate and steady, as the proprietors almost always have a certain portion of the old wine left when the new vintage In the last two or three years the competition of wines imported in large quantities into Lombardy, from the Abruzzi and Puglia, caused a decrease in the consumption of Piedmontese wines, which previously had been almost exclusively used. The production of wine in each province will be seen from the following figures:-

				H	ectolities.
Province o	f Cune	0		 	870,400
21	Turi	a		 	770,800
46	Alex	andri		 2	429,800
41	Nove	та		 	324,200
	_		_		

The production of each province subdivided into the districts of same, and calcu-

inted in proportion to the population, give	1
the following:-	ı
Average	1
production per	н
Districts and Provinces, head of the	ı.
population.	н
	н
Litres.	ı
Alha	L
Cuneo 27	ı
Mondovi	ı
Saluzza	ı
	ı
Average per head for the Province of Cuneo 137	ı
Average per nead for the violates at outseen, 201	ı
Aosta	ь
	ı
Ivrea	Ł
Pinerolo	II.
Susa	ľ
Turin 21	ı
_	L
Average per head for the Province of Turin 37	b
	ľ
Acqui	1
Alexandria	ŀ
Asti	ı
Casale Monferrato	ı
Novi Ligure	ı
	Ь
Tortona 206	Ι.
	ı
Average per head for the Province Alexandria, 333	l
Biella 60	ı
Domodossola	ı
Novara 69	ı
Pallanza 38	I
Varallo 3	ľ
Vercelli 273	Ι.
Тетесш 210	H
Average per head for Province of Novara 48	
	1
Average wine production per head in Piedmont 143	1

The cellars are generally constructed Following these are the tonic wines which is fermented and the butts in which it is cheap rates.

The chief towns of the Piedmontese dis-

tricts are all connected by rait with other

parts of Italy, which materially facilitates

are a little harsh, as Barbera, Freisa, and stored are made of strong wood; and the processes adopted are modern, as in Franca.

> Besides Clarets, Piedmout produces the best and finest qualities of Vermouth; and the district of Asti, the best brands of Italian Sparkling Wines.

The following table gives the analyses of some of the brauds:

Acidity Dry Residus per mille, per mille, 6 to 8 20 to 23	0.5 8 0.5 7.5 5.8 7	6. 7.5 .20 .20 6 .7 20 28 6 .7 18 28	65 ± 7°5 6 ± 7°5 6 ± 8	0.5 " 8.5
Alcohol per cent.	12 " 14 11 " 13 11 " 13·50	22	8-5 " 10-5 9 " 11	13"15
Qualities. Barolo	Gattinara Gheirime Nebbiolo d'Astl	Barbera 10.5 "13 Grignolino 10.5 "12.5 Dolcetto 12.5	Frelsu or Fresia Common Table Wines from Appennica Common Wines from the Lower Alus	Erhaluce, or White Sweet Caluso

In their chemical composition Piedmontese wines resemble those of Bargandy and Bordeanx. Some varieties are even more alcoholic.

Following are the names of some establishments or wine growers who can be recommended, and many of whom export their

Giovanni Beccaro, Acqui, red and special

Marquis Giuseppi Pineli Gentile, Tagliolo, red wines.

Lnigi Menotti & Sons, Acqui, red winea. Marquis Landi, Roccagrimalda, red

Borgatta Brothers, Roccagrimalda, red wines.

Cav. Giuseppi Casoletti, Alessandria, red wines.

Liprandi & Moriondo, Asti, red and special wines.

Eredi Gio, Boschiero, Asti, red and spark ling wines.

Baron Saverio Oreglia d'Isola, Carru, red wines.

Cav. F. Tarditi, La Morra, Barolo and other red wines.

Cav. Luigi Para, La Morra, Barolo and other red wines.

Matteo Fissore, Bra, Barolo and other red wines,

Marquis Armando Federici, Chieri, common red wines,

Francesco Cinzano & Co., Santa Vittoria, Vermouth and Clarets.

Cora Brothers, Costigliole d'Asti, Vermonth and Clarets.

Gancia Brothers, Canelli, Vermouth and sparkling wines.

Romero Sartoris, Turin, wines.

G. B. Porazzi, Novara, for bottled wines, especially from Guttinara, Ghemme, Lessona-places where the property is much subdivided, and where it is seldom possible to obtain wine in large quantities for direct exportation,

In all the above-named establishments, a large quantity of winss of medium qualities are also made. The common wines or grapes themselves, may be purchased on underground. The vats in which the must the property about the vintage time at very

This is one of the regions of Italy in which the cultivation of the viue has con siderably decreased. The reason of this is that in the moist places the cultivation o grass, and on the hills, that of the mul berry, has been largely substituted. A small cultivation of the vine upon trees still exists in the dry districts of the provinces of Mantua, Brescia, Bergamo, aud Como; but the wine produced at the firs and last named places, from its harshness frequently fails to satisfy the taste of cou sumers in the towns, who are favorable to the more alcoholic and agreeable wines o Piedmout and South Italy, Therefore when there is an extraordinary abundance of grapes, as was the case in 1886, the wines of this region command only very luw prices.

The hills of Breseia and Bergamo produc excellent wines, which are much sough ofter by local consumers-30 much so, that t is not possible to obtain large quantities t a sufficiently low price to allow them to e exported. The district of Soudrio, or Voltelling, which is situated on a agnay slope of about 100 kilometres, produces such good wines, that from very remote times they have been the most appreciated quali ties in Switzerland, whither they are exported in large quantities. This is the ouly province of Lombardy which may be said o have an established export trade, about me-half of its products being exported When the remainder is not sufficient for it nwu consumption, cheap wines from othe regions are introduced. Almost all the wines of Lombardy are red table wines which, on account of the acids they cou tain, keep well. The wines of Valtelliu are undoubtedly of a very superior type and have taken the highest awards at sev eral Universal Exhibitions.

The Province of Psyla is a hilly district of the opposite bank of the Pn, which pro duces very nice table wines, principally red The best producing districts in this prov ince are Voghera, Stradella, and Bobbio which, previous to 1859, belonged to Pied

The following table gives the result of the analysis of several Lombardian wines:-

Aoldky Dry Residue per nille. per millo.	22 to 28 20 " 26 18 " 24 16 " 20 20 " 36
Acidity per mille.	65 to 8 0.5 :: 7.5 6 :: 5.7 5 :: 5.7 6 :: 8 7 :: 8 : 5 7 :: 9
Alcohoi per cent,	9.5 : 12 8 : 10 7 : 9.5 8 : 11 8 : 11
Districts and Qualities of Wince.	Valtellina Brescha Disegrano Como, Milan and Montua Stradolia White Wines White Wines

The average production of wine in each district is as follows:

1	Hectolitre
avia	522,300
lilan	= 90,200
omp	82,700
ondrio	138,600
ergamo	87,800
rescia	218,000
remona	257,800
lantua	260,100
Total production of Lombardy	1,657,500

	Average
	production a
	Wine per
Districts.	head.
2/13/41/0401	
	Litros.
Vochera	351
Bobbio	
D00010	
Mrtara	14
Pavia	10
	-
Average for the Province of Pavia	111
Average for the a forther di a avia	
Abbiategrasso	11
Gallarate	15
Milan	
Lodi	
Monga	5
Average for the Pravince of Milan	8
The state of the s	
11.	15
Como	10
Como	21
Varceo	21
Average for the Province of Como	18
Average for the Province of Como	18
Average for the Province of Sondrio	115
Bergamo	34
Clusone	11
Treviglio	5
Assessment from the Characterist of December 2	99
Average for the Province of Bergamo	
Breno	17
Browela	50
Chlari	:30
CITALL CONTRACTOR OF THE CONTR	T.112
Saig	
Ve.olannoro	IS
	_
Average for the Province of Brescia .	46
Aretage lat the Florince of Mesca.	
	000
Casalmaggiore	300
Crema	20
Cremona	65
A 4 13 13	
Average for the Province of Cremona	85
Asola	65
Romalo	100
DOSAOTO	9 176 2
Cauneto sun Ogno	
Bozzolo Cauneto sull' Oglio Castiglione delle Stiviere	41
Gonzaga	127
Mantua	
Marrie Con	!!
Revere	101
Semide	91
Viadana	61
ViadanaVolta Mantovana	92
YORUR MINITOVALIA	02
Average for the Province of Mantua .	88
Average production for Lombardy	
The second secon	
Mb duration of such dist	

The production of each district of the above provinces, and the relative population, give the following averages of production per head:-

The following establishments in this locality are recommended both for their products and systems of business:-

Societa Enologica Valtellinesa, Sondrio. Domenico de Giacomi, Chiavenna.

Coopmans & Co., Montelimpino, near

Giuseppe Rossetti, Iseo (Brescia).

Societa Enologica of Mantea.

Francesco Cirio, Stradella.

In Milan are large wine merchants who trade in wines of different countries, but until the present, almost exclusively for the consumption of that town.

Following are names of the most important of these

Crosti & Borsa,	Mitan.
Gaetano Belloni,	5.0
Fratelli Camurati,	4.6
Michele Cusci,	6.7
Frat. Dondens fu Pietro,	**
Frat, Dodena fu Ambrogie	1, 41
C. & L, Fratel i Francioli	i, ''
Leopoldo Parodi,	+1
Serafino Riccanli,	1.4
G. Fratello Ruffa,	8.6
Ambrogio Zonda,	4.9
Francesco Corvi,	Lodi.

AN EDITOR GETS THERE - An exchange says: " A revivalist recently requested all in the congregation who paid their debts to rise. The rising was general. After they had taken their seats a call was made for those who did not pay their debts, and one solitary individual arose and explained that he was an editor and could not pay because the rest of the congregation were owing him their subscription to his paper."

#### INTEMPERANCE.

### The Causes Which Lead to If and Its

The widespread ignorance of the canaes of intemperance and of the conditions which induce moderation in the use of alcoholic beverages, constitute one of the most remarkable, and at the same time deplorable, phases of the current temperance agitation. Hardly a man one meets but entertains the most determined convictions as to both the causes and the cure for this particular evil; and yet the unabated existence of intemperance attests beyond controversy the profoundest ignorauce of its causes and the complete failure of its innumerable cure-alls that have been applied. The preacher and the school teacher, the journalist and the lecturer. the revivalist and the feminine crosader. are all alike prophets upon the subject, and year after year, individually and collectively, "they labor unceasingly in the great good work to which they have been called." Bot from the Rev. Joseph Cook down to the poor fool who contributes his pennies to a Prohibition campaign fund, what one of them can point to aught save the disastrous failure of his efforts? What one can cite in his support the teaching of a single master mind?

It is this all-prevailing ignorance which makes the progress of true temperance reform so painful and so slow, and it is prejudice and hate usurping the place of knowledge, that make it so difficult and so dangerous for one who sees the truth to speak it. What phase or idea, for example, is more hateful to all classes of people at present than "free whisky," or "free rum "? It is a cry of derision which frightens the boldest to the cover of silence, and the public man who advocates anything approaching it does so at his peril. Yet it is one of the most obvious facts of all history and experience that abundance and cheapness of intoxicants are always conducive to moderation in their ase.

Dr. Felix L. Oswald, writing in the Popular Science Monthly, says:

'It is, judeed, a remarkable circumstance that in the home of the best winegrapes, in Greece and Southern Spain, drunkenness is far less prevalent than in Scotland, or in Russia Poland, where Bacchus can tempt his votaries only with nanseons vodka. '

To the well-informed and unprejudiced mind how plain it is that the reason for this is, that in Greece and Southern Spain the purest and best of stimulants are very plentiful and very cheap, while in Scotland and Russia Poland, except to the aristocracy, the strongest and the prorest are very scarce and very dear. But Dr. Oswald is not alone in this testimony, nor does the obvious interpretation of his facts stand unsupported. Prof. Albert R. Ledonx, the distinguished chemist of New York, recently made a professional report apon adulterations of wines and apirits sold as beverages in New York City, and commenting apon it The Christian Union, by all odds the ablest and fairest religious publication in the United States, said:

The testimony of this report is, that the wines sold in the second and third class saloons in New York City are not adulterated to any very considerable extent, ex-

fortified by spirits. This is the scientifically ascertained fact. The natural deduction from that fact is that the cheap wines made in America are so cheop that it does not pay to manufacture sparious imitations The cheap wines have driven the manufactured article from the market. For so much as this we may give thanks to the vineyards of Ohio and California.

The master-mind of economic thought, the man in fact who is recognized everywhere as "the father of political economy, has attested the same facts, and recorded their significance in a manner which eff. etually silences ignorant and captious criticiam. In his "Wealth of Nations," Dr. Adam Smith says:

If we consult experience, the cheapness of wine seems to be a cause, not of drankenness, but of sobricty. The inhabitants of the wine countries are in general the soberest people in Europe; witness the Spaniards, the Italians, and the inhabitants of the southern provinces of France.

People are acldom guilty of excess in what is their daily fare. Nobody affects the character of liberality of character and good-fellowship, by being profuse of a liquor which is as cheap as small beer. On the contrary, in the countries which, either from excessive heat or cold, produce no grapes, and where wine, consequently, is dear, and a ratity, drunkenness is a common vice, as among the Northern nations, and all those who live between the tropics-the negroes, for example, on the coast of Guinea. When a French regiment comes from some of the Northern provinces of France, where wine is somewhat dear, to be quartered in the Sontheru, where it is very cheap, the soldiers, I have frequently heard it observed, are at first debanched by the cheapness and novelty of good wine; but after a few months' residence, the greater part of them become as sober as the rest of the inhabitants. Were the duties upon foreign wines and the excises upon malt, beer, and ale to be taken away all at once, it might, in the same manner, occasion in Great Britain a pretty general and temporary drunkenness among the middling and inferior ranks of people, which would probably be soon followed by a permanent and almost universal aobriety.

At present, drankenness is by no means the vice of people of fashion, or of those who can easily afford the most expensive liquors. A gentleman drunk with ale has scarce ever been seen among us. The restraints upon the wine trade in Great Britain, besides do not so much acem calculated to hinder the people from going if I may say so, to the ale house, as from going where they can buy the best and cheapest liquor.

And as the greatest of all economic teachers has thus clearly defined the conditions which make for sobriety, so the greatest of mod rn social philosophers has nttered the profundest warnings against the stupidity, the tyranny, and the wrong of substituting legislation and cocreion for the vital principle of individual responsibility. After citing page after page of abortive attempts in all ages, to make man better by legislation, Herbert Spencer says forcefully and eloquently:

'No philosopher's stone of a constitution can produce golden conduct from leaden instincts. No apparatus of senators, judges, and police can compensate cept as cheaper wines are mixed with for the want of an internal governing them, or they are diluted with water or sentiment. No legislative manipulation tivity of the secretive organs.

can eke out an insufficient morality into a sufficient one. No administrative sleight of hand can save us from ours lves.

"'Let us put down usury,' said to themselves the rulers of the Middle Ages: they tried; and did just the reverse of what they intended, for it has turned out that all regulations interfering with the int rest of mon y reuder its terms more rigorous and bardensome. 'We must suppress these brothels, ' decided the authorities of Berlin in 1845; they dil suppress them; and in 1818 the registrar's books and the hospital returns proved matters to be considerably worse than befor . "

There will doubtless come a time when the real truth about the temperance question will shine out plainly for all who look towards it; but amid the darkness and confusion of these times, it must be confessed that the coming of the light seems to be promised only for generations yet unborn.

### GRAPES AS A MEDICINE.

Recent investigation and experiments, says the l'ineyardist, have proven the grape to combine more health-giving and curing properties than any other fruit known, and so marked have been the results in the care of both special and chronic diseases that in Germany several establishments have been erected under the title of 'Grape Cures." It would judged, be a boon to onr people, who are classed as a uation of dyspeptics, if several of these institutions were built up here; and where, on this Continent, could such an institution be more pleasantly or judiciously located than on the shores of our beautiful lakes, Kenka or Seneca? Combining, as they do, purity of air and water, charming scenery and surroundings, and above and beyond all, the ripening to perfection of nearly every grape grown. Quoting from the late Dr. Hall (author of several prominent medical works and the editor of Hall's Journal of Health), on the healthfulness of the grape, he says: " If the seeds of grapes are swallowed, costiveness is obviated; if the pulp is eaten it is pure nutriment and is soothing in irritated bowels; if the pulp and seeds are removed and the remainder chewed, there is a liquid obtained from the skin which is a valuable astringent, and if eaten as a whole by the dyspeptic one-half an hour before each meal, in quantity of one-half to two pounds, it is almost a certain cure for the most aggravated form of this disease.

It is a fact, beyond question, that grap s are caten by the old and young, from early morning until late at night, at all times, in any quantity and under all circums.ances. and yet who has ever known a well-authenticated case of sickouss arising therefrom? Testimonials from reputable persons living around us can be readily obtained of tha permanent cures of many diseases, such as dyspepsia, chronio diarrhoea, debility, nervous prostration, loss of appetite, from their use.

All know, or should know, that the liver is the great scavenger of the human system, and when that is in tetive or torpil. disease in some form manifests itself Fruit, and particularly the grape, aids in promoting the liver's activity. Th ir acids purifying the blood and s parating the bile from it, which is then passed from the system, thereby a curing a perfect action. In view of these facts, it becomes almost a duty incumb in upon all, particularly parents, to encourage the consumption of the grap among themselves and children, and all who are troubled with dyspepsia or nac-

#### THE WINE EXCHANGE,

The State Viticultural Commission will take possession of Platt's Hall, No. 216 Montgomery street, San Francisco, abont the middle of the present month, and immediately fit it up for occupancy. The objects for moving into the hall are:

First-To obtain more room, tha present rooms not being large enough to carry on the new work of the Commission.

Second-To keep up a permanent exhibit of viticultural products.

Third-To establish an exchange where brokers, dealers and producers can meet and effect sales.

Fourth-To provide a means for the public to sample pure California wines and brandies.

One of the leading features of the exhibit will be wines and brandies suitable for consumption, as distinguished from new vintages, suitable only for storage. The object of making such an exhibit would be entirely frustrated if opportunity for sampling was not provided. A free samplingroom would, of necessity, become a public poisance, and one that the Commission would not care to control. Moreover, exhibitors of fine products would not be willing to contributs samples for free use of visitors. After considerable deliberation on this subject, the committee in charge decided upon the following plan, which, no doubt, will be estisfactory to all parties interested: A portion of the hall will be leased to Mr. Peter Klein, proprietor of the Occidental restaurant, for a café, which will he open hetween the hours of 11 A. M. and 3 P. M. In this café a light but firstclass lunch will be served, and also only such wines and hrandies as are on exhibition in the main hall. Persons wishing to sample wines and brandies without partaking of any lunch, will have free use of the café-the lunch will he in readiness for those who wish it. The Commission will print the wine list for use in the café, which will contain the names of the wines, the names of the exhibitors, tha places where the goods may be procured, and the ordinary retail price for cases and bottles. The prices given will be those named by the exhibitors. The manager of the cale and his waiters will be strictly prohibited from exercising any influence in guiding the taste of the public with respect to choice of any sample; and to protect exhibitors in this respect, the manager of the café will be allowed a uniform service charge, no matter what the price of the goods may be-as, for instance, 20 cents for quart bottles and 10 cents for pints. If a pint bottle is quoted on the list at 25 cents, he would charge 35 cents; if the price of another pint bottle is 50 cents, he would charge 60 cents-his service charge in both cases being the sama. Similar rules will apply to sweet wines and brandies as far as practicable, with certain limitations, if they are to be sold by the glass or small decanter. The service charge for serving champagnes will be 25 cents for quarts and 15 cents for pints. The Commission will charge the manager of the café for all samples delivered to him, according to the prices fixed by the exhibitors, and at the close of each day a cash settlement will be required. All exhibitors will have free access to the books of the Commission, and a asttlement can he made at any time. It is not the intention of the Commission, at the present time, to make permanent rules, but will revise them from time to time.

In order to economize space as much as possible, the Commission will place on exhibition at lesst one bottle of each kind of wine or brandy sent for exhibition, and will limit the number to the space at its command. It is not the intention of the Commission to make a display of a large number of bottles of wina, nor to favor any exhibitor by displaying his goods more prominently than the others. The Commission will exercise full control of the exhibits, and will trest all exhibitors alike. The name of the exhibitor, and his place of business, will be placed over his exhibits, all such names to be of a uniform style. Farther facilities for display of cards and business advertisements will be afforded on the walls of the gallery and in the café. A portion of the hall will be set aside for an exhibit of implements and supplies used in vineyards and cellars.

#### PRICES.

In order that the system of opening markets for producers shall not come in competition with legitimate trade, no deliveries outside of the hall will be made, and all who wish to purchase additional quantities will be referred to the agencies having those goods for asle; also, exhibitors will be required, when naming their retail price, to fix such prices so that there will not be any unfair competition with the trade. Such prices should be those they offer their goods to consumers, and such as are subject to a trade discount. It is not the policy of this Commission to depress prices, or to encourage the cut-throst policy which forces prices down below the true value of the goods, but to enable producers to obtain fair prices, and to show that our superior brands of wines and brandies can be sold at as high a figure as similar grades of foreign goods.

### DIRECTIONS POR SENDING.

Exhibitors will indicate their intention as to whether their goods are for exhibition only, or for exhibition and sampling. In order that the storage facilities provided by the Commission may not be overtaxed, exhibitors should not send too many cases for sampling. About three cases of each kind of wine would be sufficient at first. As the samples are sold, exhibitors will be notified in time, so that a new shipment can be made before the last is exhausted. All exhibits must be delived at the hall. If sent by freight, the shipping receipt should be sent to some exp. ss or transfer company, with instructions to deliver the goods at the hall. All exhibits should be marked: "State Viticultural Commission, Platt's Hall, 216 Montgomery street, San Francisco. Cal." The contents of each case should be marked on the outside, so that there may be no confusion in opening cases when needed for the café. All asmples should be put up into quarts and pints, and a price named for each kind. Exhibitors will notify the Commission the prices at which they wish their goods sold, both for cases and single bottles, such prices, as before stated, to be regular retail prices; and also give their addresses, or the addresses of their agencies, so that parties wishing to purchase larger quantities may be informed where to obtain them.

The Commission wilt not be responsible for bottles broken in transportation, but will notify exhibitors when breakage is discovered, The Commission will also not be responsible for losses by fire or other cause, except such as occur through the careless-

and brandies must be absolutely pore, and the Commission reserves the right to have an analysis made at any time, for which purpose one quart bottle will be taken, and the exhibitors notified to that effect. A statement of account will be furnished exhibitors once a month, showing the number of bottles received, and the number sold through the cafe.

All exhibits must come ready for sampling; but no wines, except such as are fi for consumption, will be served in the cafe. No bottling will be done by the Commission. All extra cases intended for sampling in the cafe will be stored in a safe place, and the best of care taken of them. No charge will be made for sach etorage.

#### WINE EXCHANGE.

A portion of the hall will be partitioned off for the exclusive use of producers, dealers and brokers, to serve as a wine exchange, where wholesale lots may be shown by samples, whether new or old, without charge or fee, and where record of wines for sale, and sales effected, may be kept Lockers will be farnished to those wishing to make use of this department for the storage of their samples. In this department, wine-brokers may keep lock-boxes for the convenience of their customers. It practicable, a system of wine sales by suction may become a feature of this de partment. In this department, also, will be provided full facilities for the raisin and dried-grape trade.

#### BEADING ROOM.

A portion of the center of the hall will be divided off for the use of a reading room, where periodicals, devoted to the wine industry—both domestic and foreign local and county papers, will be on file.

The Commission have leased a stand in the main hall, where pure unfermented grape juice will be retailed by the glass, in order to popularize the well-known "Grape Cure."

Parties intending to send exhibits will prepare their samples as soon as possible, and forward them to this Commission early in December, so that a full price list can be printed at the opening of the Exchange. It is hoped that there will be a general display of wines and brandies from all parts of the State; and in order that the exhibit may be worthy of a viticultural State, we ask your co-operation.

CLABENCE J. WETMORE, Secretary. San Francisco, Dec. 6, 1888.

### A PERPETUAL WONDER.

The grape vine, the Vineyardist observes, is one of the most wonderful things in the whole range of the vegetable kingdom. Its species are many, and its varieties innumerable, as the seeds of every species and variety always produce new varieties, instead of reproducing the kind of vines on which they grew.

And then it is almost impossible to acclimate the vine imported from foreign countries, and introduce it, even with the most careful nurture and culture, to adapt itself to new locations and surroundings. languishes like "a pilgrim and stranger in s strange land," and finally droops and dies, like one stricken with feebleness and homesickness, who vainly pines for friends, kindred and home.

But when native and "to the manner born," if only given a fair chance, and respect is paid to the laws of its nature and ness of its employes. All samples of wines development, it will "flourish like a green-

bay tree planted beside living waters," soon de much toward "taking care of itself," and reward its owner's kindly care and protection with an abundance of the choicest of all fruits known to any part of the world -for what can compare with the ripe, luscious and tempting clusters of the vine?

The most marvelous thing, however, about the grape vine, is the amazing instinct, almost amounting to intelligence, which it manifests in its search for needed moisture and food. In times of drought, it will send its roots many feet away and down deep into the earth, in search of water, and fully as far in the quest of untrition, in the shape of a buried bone or other fertilizing substance, which it surrounds with a thick mass of fibres, and never leaves until all is appropriated, as required to its growth and use.

The science of grape culture consists in knowing the nature, habits and wants of the varieties you are cultivating, and supplying the soil, and through the soil, the vine, with the proper foed on which it ives, growe and yields a full fruitage, year after year.

If wrongly cultivated, placed in a bad ocation, neglected or abused in any way, he vine resents the indignity, as certainly as can soy sensitive human being, and always makes its feelings of resentment known, in a way that cannot be misunderstood; but, if well and properly used and encouraged, it never fails to manifest its gratitude, in a manner equally positve, certain and unmistakable to all intelligent minds. The moral of this great truth is obvious, and needs no further illustration.

### MAKING VINEGAR.

Where families have no cider mills and but few apples they may easily make their own vinegar by mashing apples in a tub with a pounder, remarks a writer in the New York World. The pomace should then be put into a half-barrel with holes in the bottom, and he placed over another tub as a receiver. A follower can be placed on the pomace and he pressed down by a lever or stationary weights. The juice should be kept in a keg, bang open, and in a warm place until the vinegar is made. By frequently replenishing as it is drawn out, any farmer's family can easily keep up their stock. A few apples mashed and put in a stone jar, covered with water and the juice of soured fruits and berries, can be used for this purpose. Vinegar will stand quite a low temperature, but it is better not to allow it to freeze.

Vinegar from other substances is sometimes made. Wine vinegar is from soured wines and the jaice of grapes. Wine vinegars are extensively counterfeited by chemicals. For sorghum vinegars, to one gallon of sorghum syrup add five or six gallons of water, with a little yeast, or to a barrel of the strained juice of the cane, a pint of yeast and a little syrup.

Large quantities of vinegar are made from whiskey and acids that have a good appearance and sharp acidity, but are unfit for family use. For molasses vinegar, taka one gallon of New Orleans melasses and five gallons of water, put in a little old vinegar to sour it, or start it to fermenting with a little yeast. Keep in a warm place and cover the bang-hole of the keg with netting, to keep out the flies. Fine honey vinegar is made in the proportions of one pound of honey to a gallon of water, thor. oughly mixed. For healthfulness and general utility apple cider stands at the head of the list,

#### PRAUDS IN BRANDY

Vice-Counsul R. S. Warburtons, at La Rochelle, in a report issued recently on frauds in the brandy trade, says: It has come to my knowledge that extensive frands are being carried on at the expense of English buyers of French brandy, who do not know so much about it, by sending over from this country as a cognac, spirits of an inferior and unwholesome kind made from potatoes in G rmany, and which, if any one cared to drink it, they might do much better by buying themselves for what it is, and its proper value. If this stuff were sent direct to England from G rmany it would be suspected, and therefore, the fraud is carried out in the following manner: A firm engaged in the brandy trade in London will have a branch house, or perhaps an agent, at Hamburg, or some other place where this potato spirit is mad They do not send it direct to Eugland, but get it sent to Bordeaux or some other French seaport in its proper character, and apparently for consumption in France, but in reality with the object of conc aling itorigin and enabling it to travel by land to districts where cognac is still produced, and thence to some port well known as an export port for brandy, whence after a more or less long stay, it is sent over to the hous in London as "Cognac," either on the autharity of the bills of lading, or in some cases actually remarked as such before being put on board the ship. In the latter event, however, it is satisfactory to find not only that the French laws provide punishments adequate to the offense, but also that the tribunals are prepared to enforce them. Last year they had reason to know of these practices, and a watch was kept upon a large quantity of Hamburg spirits which had been sent as such to France, and had been subsequently consigned to an agent, there to be sent to London. An examination was made, and it was found to have heen remarked "Cognac" after its arrival in France; it was accordingly seized, and a prosecution commenced against all parties concerned. The agents were able to prove that they acted under instructions from the house in London to whom it belonged, directing them to remark it 'Cogna' and were therefore acquitted; but the owners of the spirit were convicted of fraud, and ons of them was sentenced to one year's imprisonment, in addition to heavy monetary damages, and the confiscation of the spirit in question. It appears to me, however, also to be very important that some steps should be taken to stop these frauds, and reach those who committhem in the United Kingdom, because it is very rare to see a prosecution instituted against those who commit them here, and they can send as much falsified brandy as they like to England from France without risk to themselves, as long as they do not turn it into cognac on this side of the water. The business must be a very profitable one, for real French brandy is worth here from 8a. to 10s, a gallon for very ordinary quantities, and for anything very good a much higher price would have to be paid; whereas I am informed that this German apirit is worth about 2s. per gallon. Large quantities ars imported to France in the usual course of business for mixing with French brandy, both for home consumption and exportation to foreign countries, so that even here it is difficult to know what one buys, and there is no safety except in dealing with well

satisfied to pay the price of a genuine article. It would be invidious to give names, but there are firms of this class at Cognac, Bardeaux and other places who have been long and honorably known in England, as well as in France. The supply of genuine cognac is very limited, and must diminish every year, so that if we see the trade going much as it did before the failure of the vines, it is evident that frauds must be on the increase.

#### THE FIG.

The strong points in favor of the fig are many, says the Oroville Register. It is a rapid and vigorous grower, begins to bear as early as the peach, attains a great size and lives to an advanced age, yielding larger and finer crops of fruit as it increases in size and age.

It needs but one-third of the cultivation of other fruit trees, has no off season, but, in the slang phrase of the time, "it gets there just the same," year after year, with big crop of tempting fruit.

Not content, like other trees, with yielding its owner a single crop, however good, t always produces two in this climate in a single season. One from the older wond (midsnumer shoots of the previous year), and a second from the young wood (spring -hoots of the same year); but in colder regious the latter never comes to perfection.

As a shade tree it cannot be excelled, for it is like a huge umbrella over the house during the hot sesson, yet casts its leaves during the rainy weather, and allows the sunshine to reach the dwelling. In this respect it is preferable to the clive or the orange, as they, being evergreen, cast a shade winter and summer alike.

To a poor man who is coming here to make a home, and with the intention of starting a young orchard, the fig has advantages over any other tree. It requires no pruning, which is a saving of one item of expense compared to the apple or peach. It does not need the rich manures of the orange, for the red loam lands of the foothills will grow this tree a score of years without a particle of manure of any kind,

It does not need the constant cultivation of the vine or any of the ordinary deciduous trees, and this is another item saved When the fruit is ripe it can remain on the trees for days if necessary, and there is none of that laborious and expensive work compared to drying the peach or the apple; thus a poor man can handle a much larger number of fig trees in an orchard with the same cost for labor than he can any of the other fruits that require to be cut before drying. The failure heretofore to produce a first-class dried fig in this State has been owing to the lack of right varieties, but the success sttending the White Adriatic, the Brown Smyrns and other new importations shows that at last figs adapted to this State have been found, and from this time forward the planting of this fruit will reach enormous proportions.

The greatest fault with our growers has been that they raised only a few trees and their crops were not large enough to induce buyers to come here. We allode now to the common black or California fig, for the fluer varieties are just coming into bearing, but even the black fig can be made very profitable if the fruit is put up in an attractive and tasty manner. What is needed is that growers put out five or ten acres of figs so as to have quantity enough to draw buyers to their very doors. The history of

imported fruit is somewhat curious, and it has been stated time and again that the natives of the most noted fig regions kept us from obtaining the better kinds of fruit.

Since the fig has been studied more attentively during the past few years it is learned that while one variety of the fig does well in one section, it is utterly worthless when removed to another. Thus our best imported figs come from the valley of the Meander, where are situated the figorchards of Aidin. Now the fig trees from Aidiu planted in other localities in Smyrna never give good results; the trees grow and become very large and strong, but yield fruit inferior in quality to the common local variety. Even nurserymen do not appear to realize that there are 450 varieties of this great fruit cultivated in different parts of the world, while many wild varieties have never yet been tested, though the fruit of the fig tree may be reckaned among the staple foods of man ages before cereals were cultivated by any settled agricultural popu-

### MEASURED RUSHELS.

The report of the wheat harvest is made in messured bushels. The Winchester bashel, the unit of measure of the United States, is 2,150.42 cubic inches. The imperial bushel of Great Britain, the standard for measure of cereals and other products, is 2,218,192 cubic inches. Freuch cereal measure is the hectoliter (100 liters), or 2.8378 Winchester bushels. The Russian unit of measure is the chetvert, equal to 5.956 Winchester bushels. The German measure is the sheffel. Every country has its dry measure for cereals, having a specified depth and thickness of diameter. The harvests of all countries are first reported in dry measure, and not by weight.

After the record of quantity is made, there is a question of quality. There are various slements representing quality, but weight is probably the easiest and most practical test. It is prominently a commercial test, though plumpness, color, and ctearness are also elements. Values is governed by these physical peculiarities, which divide the harvest into grades representing quality; and it is also affected by chemical constituents and hydroscopic condition. These elements of quality are only to be determined after harvest, and after distribution f sufficient portion of the harvest to be fairly representative of the character of an whole. This is so obvious that it needs only to be stated to be established.

These are the reasons why the first slalement of the harvest is in units of measure in bushels in this country. The light bushel is worth really more to thresh than the heavy one, but thrashers can not make nice distinctions, and, therefore, make a uniform charge per bushel. Therefore, the thresher's bushel is a measured bushel. and estimates are based, as far as possible, on the records of thrashing. This is an additional showing of the necessity that estimates should be in measured bushels, The estimate is perfected and published at the end of the year.

The March report, the cereal report next following, shows the quality and estimates the weight of the grain from records of such portion of the crop as has been distributed, from special investigation through known and respectable houses, and being the repeated failures to obtain a profitable regular correspondence, aided by a parallel lief."

drying fig that would compete with the inquiry on the part of State agents, by local estimates of millers, and records of official inspection at trade centers.

> There is in every year a great difference in the weight of wheat of different varieties, in different asctions and soils, and under diverse cultivation. The extreme variation is very great, ranging at least from 50 to 68 pounds, and the average less than 50 pounds, as a rule. For instance, the average of estimates of last year was 58.5 pounds; for 1886, 58.4 pounds; for 1885, 57 ponnds; for 1884, 58.3 pounds; for 1883, 56.9 pounds.

It would seem that the average weight of wheat in the United States-not highgrade commercial wheat, but grain of all grades and conditions-is about 58 pounds per measured Winchester bushel (exactly for this five years' average 57.0 pounds), Records of a Minnesota wheat dealer for twelve years, from 1872 to 1883 inclusive, made an average very close to 58 pounds per bushel for wheat of all grades. France, the nation of second rank in wheat production, has an equally wide range of quality, according to commercial estimates, that of L'Echo Agriculture being equivalent to 61.2 per bushel for 1887, and 57.3 for 1888, and 59 pounds as an average of ten years. The primitive culture of Russia, South America, and India undoubtedly produces averages lower rather than higher, though in dry countries good wheat is heavy. It is doubtful if any nation in the world produces a ten years' average of 60 pounds per bushel, including every grade and all wheat grown. Commercial estimates are liable to be confined to commercial grades, thus failing to make a true average, with the effect of exaggerating it.

These estimates are a sufficient explanation of our practice of estimating quantity first and quality afterwards, from sufficient data, in preference to guess-work at the time of harvest, as some inconsistent and thoughtless brokers and minor commercial editors have insisted on. Some such persons have demanded, while the grain is in the field or in the shock, an authoritative statement of the number of bushels of 60 pounds which will ultimately be weighed out-in part at least-from the farmers' gransrics; and some of them have either ignorantly or deliberately misrepresented and distorted our previous records of quantity and quality of wheat. Such perversion, however, is a part of the speculators' trade capital, and always to be expected.

### THE BLOOD ORANGE.

Under the above heading, the Orange Tribune remarka:

"The blood orange is a mere variety of the sweet grange obtained by cultivation, and appears first to have been raised by the Spanish gardeners in the Phillipine Islands, from the capital of which, (Manilla) it, together with the well-known cigars formed at one time one of the chief articles of export. On its first appearance in Eqrope it excited a considerable sensation. and, in the last century, very high prices were demanded for the trees which bore the wonderful fruit. None, however, now come to us from Malta, where great pains are bestawed on their cultivation. It was for a long time supposed-and, indeed, the idea is not yet quite extinct-that blood oranges were produced by the grafting of the arange with the pomegranate, but there is not the alightest foundation for the be-

#### ANALYSIS OF WINES

Methods Recently Adopted at Convention of Association of Official Agricuitural Chemists

A commission of experts, appointed in the year 1884 by the chancellor of the Empire, to which was intrusted the establishment of uniform methods for the chemical investigation of wine, adopted the following resolutions, which were made public by the Prussian minister for commerce and trade by a decree of the 12th of August, 1884, which provides that they shall be rigidly adhered to in public institutions for the examination of food-stuffs, and are recommended to the representatives of like private concerns.

BESOLUTIONS OF THE COMMISSION.

Since, in consequence of improper manner of taking, keeping, and sending in of samples of wine for investigation by the authorities, a decomposition or change in the latter often occurs, the commission considers it advisable to give the following instructions:

- 1. Of each sample, at least one bottle (% liter), as well filled as possible, must be taken.
- 2. The bottles and corks used must be perfectly clenn; the best are new bottles and corks. Pitchers or opaque bottles in which the presence of impurities can not be seen are not to be used.

& 3. Each bottle shall be provided with a Isbel, gummed (not tied) on, upon which shall be given the jedex number of the sample corresponding to a description of it.

- 4. The samples are to be sent to the chemical laboratory as soon as possible to avoid any chance of alteration which, under some circumstances, can take place in a very short time. If they are, for some special reason retained in any other place for any length of time, the bottles are to be placed in a cellar und kept lying on their sides.
- 5. If in samples of wine taken from any business concern adulteration is shown, a bottle of the water is to be taken which was presumably used in the adulteration.
- 6. It is advisable, in many cases neces sary, that, together with the wine, a copy of these resolutions be sent to the chemist

F Specific Gravily .- In this determination use is to be made of a pienometer, or a Westphal balance controlled by a picnometer. Temperature, 15° C.

Alcohol .- The alcohol is estimated in 50 to 100 cubic centimeters of the wine by the distillation method. The amount of nlcohol is to be given in the following way: In 100 cubic centimeters wine at 15° C. are contained n grams alcohol. For the calculation the tables of Baumhauer and Hebner are used.

(The amounts of all the other constituents are also to be given in this way; in 100 cubic centimeters wine at 15° C. are contained n grams.)

Extract .- For this estimation 50 cubic centimeters of winc, measured out at 15° C., are evaporated on the water bath in a platinum dish (85 millimeters in diameter. 20 millimeters in height, and 75 cubic centimeters capacity, weight about 20 grams), and the residue heated for two and onehalf hours in a water jacket. Of wines rich in sugar (that is, wines containing over 0.5 grams of sugar in 100 enbic centiponding dilution, is taken, so that 1 or at most 1.5 grams extract are weighed.

Glycerine. - One hundred cubic centimeters of wine (for sweet wines below see) are evaporated in a roomy, not too shallow. porcelain dish to about 10 cubic centimeters, a little sand added, and milk of lime to a strong alkaline reaction, and the whole brought nearly to dryness. The residue is extracted with 50 cubic centimeters of 96 per cent. alcohol on the water bath, with The solution is poured frequent stirring. off through a filter, and the residue exhausted by treatment with small quantities of alcohol. For this, 50 to 100 cubic centimeters are generally sufficient, so that the entire filtrate measures 100 to 200 cubic centimeters. The alcoholic solution is evaporated on the water bath to a sirnpy consistence. (The principal part of the nlcohol may be distitled off if desired), The residue is taken up by 10 cubic centimeters of absolute alcohol, mixed in a stoppered flask with 15 enbic centimeters of ether and allowed to stand until clear. when the clear liquid is poured off into a glass-stoppered weighing-glass, filtering the last portion of the solution. The solution is then evaporated in the weighing-glass until the residue no longer flows readily, after which it is dried an hour longer in a water jacket. After cooling it is weighed.

In the case of sweet wines (over 0.5 grams of sugar in 100 cubic centimers) 50 cubic centimeters are taken in a good-sized flask, some sand added, and a sufficient quantity of powdered slack lime, and hented with frequent shaking in the water bath. After cooling, 100 cubic centimeters of 96 per cent, alcohol are added, the precipitate which forms allowed to separate, the solution filtered, and the residue washed with alcohol of the same strength. The alcoholic solution is evaporated and the residue treated as above.

Free goids (total quantity of the acid rencting constituents of the wine).-These are to be estimated with a sufficiently dilute normal solution of alkali (at least one-third normal alkali) in 10 to 20 cubic centimeters of wine. If one-tenth normal alkali is used at least 10 cubic centimeters of wine should be taken for titrasion; if one-third normal. 20 cubic centimeters of wine. The drop method (Tupfel methode), with delicate re-agent paper, is recommended for the establishment of the neutral point. Any considerable quantities of carbonic acid in the wine are to be previously removed by shaking. These "free acids" are to be reckoned and reported as tartaric acid.

" Volatile acids. - These are to be estimated by distillation in a current of steam, and not indirectly, and reported as acetic acid. The amount of the "fixed acids" is found by subtracting from the amount of "free seids" found, the amount of tartaric acid corresponding to the "volatile acids"

Bilartrate of potash and free tartaric acid .a. Qualitative detection of free tartaric acid: 20 to 30 cubic centimeters of the wine sre treated with precipitated and finely powdered bitsrtrate of potash, shaken repeatedly, filtered off after an hour, and 2 to 3 drops of a twenty per cent. solution of ncetate of potash added to the clear filtrate, and the solution allowed to stand twelve hours. The shaking and standing of the solution must take place at as nearly as possible the same temperature. If any considerable precipitate forms during this time meters) a smaller quantity, with corres- free tartaric acid is present, and ithe estimay be necessary.

b. Quantitative estimation of the bitartrate of potash and free tartaric acid: In two stoppered flasks two samples of 20 cubic centimeters of wine each are treated with 200 cubic centimeters ether-alcohol (equal volumes), after adding to the one flask 2 to 3 drops of a 20 per cent, solution of acetate of potash. The mixtures are well shaken, and allowed to stand sixteen to eighteen hours at a low temperature, the precipitate filtered off, washed with ether-sloehol, and titrated. (The solution of acetate of potash must be neutral or acid. The addition of too much acetate may cause the retention of some bitartrate in solution.) It is best on the score of safety to add to the filtrate from the estimation of the total tartaric acid a further portion of 2 drops of acetats of potash, to see if a further precipitation takes place.

In special cases the following procedure of Nessler and Barth may be used as a

Fifty enbic centimeters of wine are evaporated to the consistency of a thin syrup (best with the addition of quartz saud), the residue brought into a flask by means of small washings of 96 per cent. alcohol, and with continual shaking more slcobol is gradually added, until the entire quantity of alcohol is about one bundred cubic centimeters. The flask and contents are corked and allowed to stand four hours in a cool place, then filtered, and the precipitate washed with 96 per cent, alcohol; the filter paper, together with the partly flocculent, partly crystalline precipitate, is returned to the flask, treated with 30 cubic centermeters warm water, titrated after cooling and the acidity reckoned as bitartrate. The result is sometimes too high if pectinous bodies separate out in small lumps, inclosing a small portion of free acids.

In the alcoholic filtrate the alcohol is evaporated, 0.5 cubic centimeters of a 20 per cent. potassic acetate solution added, which has been acidified by a slight excess of acetic acid, and thus the formation of bitartrate from the free tartaric acid in the wine facilitated. The whole is now, like the first residue of evaporation, treated with (sand and) 96 per cent alcohol, and carefully brought into a flask, the volume of alcohol increased to 100 cubic centimeters. well shaken, corked, allowed to stand in a cold place four hours, filtered, the precipitate washed, dissolved in warm water, titrated, and for one equivalent of alkali, two equivalents of tartaric acid are reck-

This method for the estimation of the free tartaric acid has the advantage over the former of being free from all errors of estimation by difference. The presence of considerable quantities of sulphates impairs the accuracy of the method.

Malie acid, succinic acid, eitric acid.-Methods for the separation and estimation of these acids cannot be recommenced at the present time.

Salicylic acid .- For the detection of this, 100 cubic centimeters of wine are repeatedly shaken out with chloroform, the latter evaporated and the aqueous solution of the residue tested with very dilnte solution of ferric chloride. For the approximately quantitative determination it is sufficient to weigh the chloroform residne, after it has been again recrystallized from chloro-

Coloring matter .- Red wines are always

mation of it and of the bitartrate of potash to be tested for coal-tar colors. Conclusions in regard to the presence of other foreign coloring matters drawn from the color of precipitates and other color reactions are only exceptionally to be regarded as safe. In the search for coal-tar colors the shaking ont of 100 cubic centimeters of the wine with ether before and after its neutralization with ammonis is recommended. The etherial solutions are to be tested sepa-

Tannin,-In case a quantitative determination of tannin (or tannin and coloring matter) appears necessary, the permanganate method of Nenbaner is to bs employed. As a rule the following estimation of the amount of tanuin will suffice: The free acids are neutralized to within 0.5 grams in 100 cubic ceutimeters with standard alkali, if necessary. Then 1 cubic centimeter of 40 per cent. sodic acetate solution is added, and drop by drop n 10 per cent. solution of ferric chloride is sufficient for the precipitation of 0.05 per cent. of tannin. (New wines are deprived of the carbonic acid held in solution by repeated shaking.)

Sugar.-The sugar should be determined. after the addition of carbonate of soda, by means of Fehling's solution, using dilute solutions, and, in wines rich in sugar, (i. e., wines containing over .5 gram in 100 cubic centimeters), with observance of Soxblet's modifications, and circulated as grape sugar. Highly colored wines are to be decolorized with animal charcoal if their content of sugar is low, and with acetate of lead and sodinm carbonate if it is blgh.

If the polarization indicates the presence of cane sugar (compare under polarization) the estimation is to be repeated in the manner indicated after the inversion (heating with hydrochloric acid) of the solution. From the difference the cane sugar can be calculated.

Polarization .- 1. With white wines: 60 cubic centimeters of wine are treated with 3 cubic centimeters acetate of lead solution in a graduated cylinder, and the precipitate filtered off. To 30 cubic centimeters of the filtrate is added 1.5 cubic centimeters of a saturated solution of sodic carbonate, filtered again, and the filtrate polarized. This gives a dilution of 10.11 which must be allowed for.

2. With red wine s: 60 cubic centimeters wines are treated with 6 cubic centimeters acetate of lead, and to 30 cubic centimeters of the filtrate 3 cubic centimeters of the saturated solution of sodic carbonate added, filtered again, and polarized. In this way a dilution of 5.6 is obtained.

The above conditions are so arranged (with white and red wines) that the last filtrate suffices to fill the 220-millimeter tubs of the Wild polaristrobometer of which the capacity is about 28 cubic centi-

In place of the acetate of lead very small quantities of animal charcoal can be used. In this case an addition of sodic carbonate is not necessary, nor is the volume of the wine altered. If a portion of the undiluted wine 220 millimeters long shows a higher right-handed rotation than 0.3°, Wild, the following procedure is necessary:

Two hundred and ten cubic centimetera of the wine are evaporated on the water bath to a thin syrup, after the addition of a few drops of a 20 per cent, solution of acetate of potash. To the residue is added gradually, with continual stirring, 200 cubic centimeters of 90 per cent. alcohol. alcoholic solution, when perfectly clear, is poured off or filtered into a flask, and the alcohol distilled or evaporated off down to

about 5 cubic centimeters. The residue is treated with about 15 cubic centimeters water and a little bone-black, filtered into a graduated cylinder, and washed with water nutil the filtrate measures 30 cubic centimeters. If this shows on polarization a ro tation of more than 0.5°, Wild, the wincontains the unfermentable matter of commercial potato sugar (amylin). If in the estimation of the sugar by Fehling's solution more than 0.3 grams sugar in any 100 cubic centimeters was found, the original rightrotation caused by the amylin may be diminished by the left-rotating sugar; the shove precipitation with alcohol is in this case to be undertaken, even when the right rotation is less than 0.3°, Wild. The sugar is, however, first fermented by the addition of pure yeast. With very considerable content in (Fehling's solution) reducing sugar and proportionally small left-rotation, the diminishing of the left-rotation may be brought about by cane sugar or dextriu or amylin. For the detection of the first the wine is inverted by heating with hydrochloric acid (to 50 cubic centimeters wine 5 cubic centimeters dilute hydrochleric acid of specific gravity 1,10), and again polar ized. If the left rotation has increased the presence of cane sugar is demonstrated The presence of dextrin is shown as given in the section on "gum." In case cane sugar is present, well-washed yeast, as puras possible, should be added, and the wine polarized after fermentatian is complete. The conclusious are then the same as with the wines poor in sugar.

For polarization only large, exact instruments are to be used.

The rotation is to be calculated in degrees, Wild, according to Landolt (Zeitschr. (. anslyt. Chemie, 7.9):

- 1° Wild =4,6043° Soleil.
- 1° Soleil =0.217189° Wild.
- l° Wild =2.89205° Ventzke.
- 1° Ventzke=0.346015° Wild.

Gum (arabic) .- For establishing the addition of any considerable quantities of gum 4 cubic centimeters wine are treated with 10 cubic continueters of 96 per cent. alcohol. If gum is present, the mixture becomes milky, and only clears up again after several hours. The precipitate which occurs adheres partly to the sides of the tube, and forms hard lumps. In genuine wine, flakes appear after a short time, which soon settle, and remain somewhat loose. For a more exact test it is recommended to evaporate the wine to the consistency of a sirup, extract with alcohol, of the strength given above, and dissolve the insoluble residue in water. This solution is treated with some hydrochloric acid (of specific gravity 1.10) heated under pressure two hours, and the reducing power ascertained with Fehling's solution, and calculated to dextrose. In genuine wines no considerable reduction is obtained in this way. (Dextrin is to be detected in the same way.)

Mannite. -- As the prescuce of mannite in wines has been observed in a few cases, it should be considered when pointed crystals make their appearance in the extract or the glycerine.

Nitrogen .- In the estimation of nitrogen, the soda-lime method is to be used.

Mineral matters .- For their estimation. 50 cubic centimeters of wine are used. If the incineration is incomplete, the charcoal is leached with some water, and burned by itself. The solution is evaporated in the same dish, and the entire ash gently gnited,

Chlorine estimation.-The wine is saturated with sodic carbonate, evaporated, the residue gently ignited and exbausted with water. In this solution the chlorine is to be estimated volumetrically according to Volhard, or gravimetrically. Wines whose ashes do not burn white by gentle ignition, usually contain considerable quantities of chlorine (salt).

Sulphuric acid.-This is to be estimated directly in the wine by the addition of barium (bloride. The quantitative estimation of the sulphuric scid is to be carried out only in cases of where the qualitative test indicates the presence of abnormally large quantities. (In the case of viscous or very muddy wines, a previous clarifica tion with Spanish earth is to be recom-

If in a special case it is necessary to investigate whether free sulphuric acid or potassium bisulphate are present, it must be proved that more sulphuric acid is present than is necessary to form neutral anlts with all the bases.

Phosphoric acid.—In the case of wines whose ash s do not react strongly alkaline the estimation is made by evaporating the wine with sodie carbonate and potassic nitrate, the residue gently ignited and taken up with dilute nitric acid; then the molybdenum method is to be used. If the ash reacts strongly alkaline the nitric acid solution of it can be used directly for the phospheric-acid determination.

The other mineral constituents of winealso alum-are to be determined in the ash or residue of incineration.

Sulphurous acid .- One hundred cubic centimeters wine are distilled in a current of carbonic acid gas after the addition of phosphoric acid. For receiving the distillate 5 cubic centimeters of normal iodine solution are used. After the first third has distilled off, the distillate, which must still contain an excess of free iodine, is acidified with dydrochloric acid, heated and treated with barium chloride.

Adulteration of grape wine with fruit wine.-The detection of this adulteration can only exceptionally be carried out with certainty by means of the methods that have so far been offered. Especially are all methods untrustworthy which rely upon a single reaction to distinguish grape from fruit wine; neither is it always possible to decide with certainty from the absence of tartaric acid, or from the presence of unly very small quantities, that a wine is not made from grapes.

In the manufacture of artificial wine together with water the following articles are sometimes known to be used: Alcohol (direct or in the shape of fortified wine), cane sugar, starch sugar, and substances rich in sugar (honey), glycerine, bitartrate of potash, tartaric acid, other vegetable acids, and anbetances rich in such acide, ealicylic acid, mineral matters, gum arabic, tannic acid, and substances rich in the same (e. g., kino, catechu), foreign coloring matters, various ethers and aromas,

The estimation, or rather the means of detecting the most of these substances, has already been given above, with the exception of the aromas and others, for which no method can as yet he recommended.

The following substances may be mentioned here in particular, which serve for increasing the sugar, extract and free acid: Dried fruit, tamarinds, St. John's bread, dates, figs,

B .- RULES FOR JUDGING THE PUBITY OF WINE,

I. (a.) Tests and determinations which are, as a rule, to be performed in judging of the purity of wines: Extract, slcohol, sugar, free acids as a whole, free tarterio acid qualitative, sulphurio acid, total ash, polarization, gum, foreign coloring matters in red wine. (b.) Tests and determinations which ere also to be carried out under special circumstances: Specific gravity, volatile acids, bitartrate of potash, and free tartaric acid quantitative, succinic scid, malic acid, citric acid, salicylic acid, sulphurous acid, tannin, mannite, special ash constituents, nitrogen.

The commission consider it desirable, in giving the estimations generally performed, to adhere to the order of succession given above-(under (a).

II. The commission cannot regard it as their province to give a guide for judging of the purity of wine, but think it advisable, in the light of its experience, to call attention to the following points:

Wines which are made wholly from pure grape juice very seldom contain a less quantity of extract than 1.5 grams in 100 cubic centimeters wine. It wines poorer in extract occur they should be condemned, unless it can be proven that natural wines of the same district and vintage foccur with a similar low content of extract.

After subtracting the "fixed acide," the remaining extract (extractrest) in pure wines, according to previous experience, amounts to at least 1.1 grams in 100 cubic centimeters, and after substracting tha "free acids," at least I gram. Wines which show less extractrest are to be condemned, in case it can not be shown that natural wines of the same district and vintage contain as small an extractrest.

A wine which contains appreciably more ash than 10 per cent, of its extract content must contain, correspondingly, more extract than would otherwise be accepted as a minimum limit. In netural wines the relation of ash to extract approaches very closely I to 10 parts by weight. Still, a considerable devistion from this relation does not entirely justify the conclusion that the wine is adulterated.

The amount of free tartaric acid in pure wines, according to previous experience, does not exceed one-sixth of the entire "fixed acide."

The relation between alcohol and glycerine can vary in pure wines between 100 parte by weight of alcohol to 7 parta by weight of glycerine, and 100 parts by weight of alcohol to 14 parts by weight of glycerine. In case of wines showing a different glycerine relation an addition of alcohol or glycerine can be inferred,

As sometimes during its handling in cellare small quantities of alcohol (at most I per cent. by volume ) may find their way into wine, this fact must be borne in mind in judging of ite purity.

These proportions are not always applicable to sweet wines.

For the individual ash constituents no generally applicable limits can be given. The opinion that the better kinds of wine others is unfounded.

Wines that contain less than 0.14 gram of mineral matter in 100 cubic centimeters are to be condemned, if it can not ba shown that natural wines of the same kind and the same vintage, which have been subject to like treatment, have an equally small content of mineral matter.

Wines which contain more than 0.05 gram of salt in 100 cubic centimeters are to be condemned.

Wines that contain more than 0.092 gram sulphuric scid corresponding to 0.20 grams potassic sulphate (K2 SO1) in 100 cubic centimeters, are to be designated as wines containing too much sulphuric acid, either from the use of gypsum or in some other way.

Through various causes wines may become vicious, black, brown, cloudy, or bitter; they mey otherwise change essentially in color, taste, and odor. The color of red wines may also separate in a solid form; still all these phenomena in and of themselves would not justify the condemuation of the wine as not genuine.

If during the commer time an energetic fermentation commences in a wine, this does not justify the conclusion that an addition of sugar or substances rich lu sugar, e. g. honey, etc., has taken place, for the first fermentation may have been hindered in various ways or the wine may have had an addition of a wine rich in sugar.

The methods adopted by the "Union of Bavarian Chemists" differ considerably from the above in many particulars, so they are given also, together with the methods adopted by the same body for the examination of beer in somewhat condensed form.

### A STATE FARM IN FRANCE.

M. Gustave Heuzé contributes to the Journal d'Agriculture Pratique an interesting account of the national sheep-breeding farm (bergerie) at Rambouillet, which has now been in existence for more than a century, King Louis XVI having purchased the palace and forest of Rambouillet in 1784 and baving creeted an experimental farm on the estate at a cost of about £1,600 in the money of that day, now representing, of course, a much larger sum. The manager of the farm, one Tessier, obtained the King's permission to spend more than double the sum in the purchase of Fribourg cattle, Angora goats, implements, and the cultivation of different varieties of wheat, clover, etc. But the great service which Tessier did was the introduction of the Merinoe sheep which have since made Rambonillet so well known. These sheep had originally been brought from Spain some (sw years before, on account of the excellence of their wool, and Tessier, having seen them at various places in France, induced the King to order the French Ambassador at Madrid to purchase a flock of 364 sheep, which were selected from among the choicest flocks in Spain, at a cost of £650. The sheep, on their arrival at Rambouillet, were placed under the charge of a man named Delorme. who was still shepherd when Napoleon came to Ramboillet in 1804 and complimented him by calling him the "first shepherd in France." The flock was reinforced two or three times by fresh importations from Spain, and it was the custom to hold an annual ram sale from 1794 to 1853, but in the latter year this was given up, and always contain more phosphoric acid than since then the sales have been private. The change was a beneficial one, for while the highest prices at public auction were £17 for rame and £5 for ewes, the average prica for the twenty years from 1853 to 1872 was £34 for the rams and £16 for the ewes. The total value of the sheep sold out of the Rambouillet flock from 1797 to 1872 was £139,000, represented by 4,309 rams.



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### FRIDAY..... DECEMBER 7, 1888

THE FOLLOWING SUMMARY of the latest information received from the wine-growing districts of Europe is obtained from Benfort's Circular: The French vintage has terminated. In some localities in the Médoc and a good many vineyards of the Palus the amount secured is something extraordinary; but the fact should not be lost sight of that about one-half of the Gironda vineyards have fallen a prev to the phylloxera. In 1887 the Gironds produced about 100,000 tons of wine. This year the product will probably exceed 250,000 tons, whereas prior to the phylloxera invasion-for example, in 1875the yield was nearly 600,000 tons. It is as yet difficult to judge the quality, but it will in any event prove quite merchantable; this is chiefly owing to the treatment with sulphate of copper, which completely shielded the vines against the mildew. With reference to our "grand white wine" viotage it may be stated that after the rainy days in the summer, followed by an exceptionally high temperature, the securing of this important crop has taken place under much more favorable circumstances than we were permitted to hope toward the close of August. The grapes were well developed, having, besides a thin skin, few atones and a perfect degree of ripeness, thereby yielding more wine than the most sanguine among our proprietors had anticipated. Having been exempt from mildew, the foliage of vines had been completely preserved; in this manner the wood attained full maturity, but the grapes with it. If, therefore, proprietors, in the future, perseveringly resort to the treatment alluded to, there is every reason to hope that we shall gradually return to the good and ample yields of a dozen years ago.

CLAUS SPRECKELS is running his new beet-sugar factory at Watsonville day and night. It is said that he gives personal supervision to all details, and instructs the hands in the new process, with which they are unfamiliar. The beets have proved very satisfactory as regards saccharine qualities, and many farmers are receiving \$8 per ton, whereas only \$4 was guaranteed. Spreckels will probably establish several other refineries in different parts of the State.

IT SEEMS strange that distillers of brandy in California do not recognize the advantages of shipping consignments of the liquor to New York in bond. Storage and insurance are much cheaper than here, besides the advantages to be gained by a depot at the great distributing point for home and export trade. The only risk run is in a connection with soms irresponsible firm, which may be more inclined to look after its own interests than those of its clients. This, however, can be avoided by a little circumspection at the beginning in the selection of agents. Among the most respectable firms in the Commission line, is that of J. D. W. Sherman with offices nt 39 and 43 Water Street, New York City, He has already been largely interested in California vines, fruits, oils and brandies, having established quite an export trade, the goods, being scattered into almost every city of the United Kingdom. The firm makes liberal ndvances as well as the freight on all goods consigned to him from the Pacific Coast, and the rate of interest charged 6 per cent. is much lower than the best rates which can be obtained

Some of our manufacturers of olive oil will do well to open up a correspondence with this firm, it being in a position to drive business in this particular line of goods.

THE FOLLOWING is a synopsis of Sonday decisions recently rendered by the Treasury Department at Washington, D. C.

A Chinese liquor, known as "Sam-Shu Wine, " is dutiable as a medicinal preparation, containing alcohol, at the rate of 50 cents per pound, under T. I., 118. Certain other so-called Chinese wines, which consist of spirits manufactured from grain or other material imported in bottles, are dutiable at the rate of \$2 per gallon for the contents and 3 cents per bottle for the bottles, under T. I., 310 and 311. (Letter to Collector of Customs at New York, October 30, 1888.)

Orange bitters, a beverage containing spirits, are held to be dutiable at the rate of \$2.00 per gallon, under the special provision in Schedule H., T. I., 313, for "cordials \* \* " and other similar spiritnons beverages or bitters, containing spirits." (Letter to Collector of Customs at New York, November 13, 1888.)

The fact that imported merchandise sustained damage during the voyage of importation, by reason of the hold of the importing vessel being saturated with oil leaking out on a previous voyage, the hold, however, having, in the meantime, been thoroughly cleaned and whitewashed before the shipment of the merchandise which sustained damage, does not prevent the allowance of damage under the provisions of section 2927 of the Revised Statutes. (Letter to Collector of Customa at New York, November 14, 1888.)

Cut-glass bottles containing samples of chemicals and other goods, are held to be dutiable at the rate of 45 per cent, ad valorem, nuder the provisions in Schedule B., T. I., 135 and 136 for articles of glass cut, &c. These bottles being specially provided for, are excluded from classification under section 7 of the act of March 3, 1883. (Letter to Surveyor of Customs at Louisville, Ky., November 14, 1888.)

Subscribe for the MERCHANT,

THE PATH of the total eclipse of the auu which occurs January lat will begin near the center of the group of the Aleutian Islands, which stretch across from Alaska to Kamschatks, and sweeping southward and eastward over the North Pacific Ocean, will reach the continent a little north of San Francisco. It will continue on in a broad curve turning northward and crossing Nevada, Idaho and Montana, will end far up in Canada, about half way between the western end of Lake Superior and Hudson Bay. Unfortunately this line of totality runs between 100 and 200 miles north of Mt. Hamilton, which will render it impossible for the astronomers to see this interesting eclipse with the most powerful teleacope in the world. While only observers along this line will see the sun totally cclipsed, a partial eclipse will be seen all over the United States.

THROUGH THE courtesy of the Italian Consul in this city we are enabled to producs for the benefit of our many readers. au account of the viticultural products of the twelve agricultural regions into which Italy is divided, which will undoubtedly prove as interesting as instructive. The original publication was made at the instance of the Societa General dei Viticoltori Italiani, which in order to provide the wine growers and wins merchants in Italy as well as in other countries with reliable information of their home industry, has offered valuable prizes for the best reports on the aubject.

The MERCHANT will, from time to time produce the publication in extenso, translated by Guido Rossati, Deputy of the Italian Government for Italian wines in England,

ONE TRAVELS far now-a-days for home news. The Anglo-American Times published in London gets in the following thrust at our local scientific guides in metters of agriculture: "California is still having trouble with her Agricultural College, which seems, as represented, to be a mismanaged institution. The Professor in charge has half a dozen instructors under him but they find little or nothing to do, as there are just as many students as there are professors. The bulletins issued from the College are said to be misleading, and less theory with more practical work is called for. The College authorities are conatantly asking for money, but the San Francisco News-Letter says that the institution ia not worth to the agriculturiata of the State the money now spent on it."

THE CASE of Mrs. A. M. Rogers against the American Fire Insurance Company of Philadelphia, growing out of the burning of the Margherita winery at Freauo some months sgo, has been concluded. The jury after a deliheration of sixteen minutes returned a verdict which not only awards Mrs. Rogers a large amount for insurance, but also furnishes a complete vindication of the lady, her hosband and their agent on the property, Mr. I. Ch. De St. Hubert. from the ugly charge of burning the place to obtain the insurance. The verdict has given general satisfaction to the citizens

THE PRESIDENTIAL electors chosen by popular vote will meet at their respective State Capitals on Monday, January 14, 1889, and cast their ballots for President geological survey, \$634,240; patent office, and Vice-President of the United States, \$796,370,

THE total number of immigrants who arrived in the United States during the nine months which ended on September 30th last, was 432,802, against 411,282 deriug the corresponding period of 1887 Of the whole number of arrivals this year 61,532 were from England and Wales, 62,423 from Ireland, 19,320 from Scot land, 85,098 from Germany, 57,801 from Sweden and Norway, 41,293 from Italy, 32,097 from Russia, and 34,702 from the Austrian Empire. The total number of immigrants who arrived in September last was 39,865, against 48,443 in September, 1887.

THE STATE Viticultural Commission is in receipt of a letter from Dallas, Texas, stating that a man representing himself to be an agent of the Vineyard and Labor Association of California, is in that section offering to procure transportation for workingmen to California for the sum of \$6.45. The writer aska if he is an accredited representative of any legitimate California organization. No such organization as the Vineyard and Labor Association exists in this State, and its reputed representative has been denounced.

Some fellow of a mathematical torn of mind has been to the trouble to calculate that the light of the full moon is equal to that of 134,000,000,000,000,000 candles, and that within one or two of that number of candles could be set up on end on one-half the surface of the moon. This information, observes the Chicago Herald, will enable any one to figure up how much every full moon is worth to us, putting candles at fifteen cents a dezen.

THE CALIFORNIA raisin crop of 1888 is estimated at a million boxes, or 20,000,-000 pounds. Eastern reports show that tha California product is driving the Spanish brands out of the market. Withal it appears that in benefitting the world at large, home interests have been temporarily forgottan, and the California Christmas pudding seems fated to be composed of low-grads grapes or the hated foreign rival. This is certainly a rough deal on the western believer in the time-honored interest that "Charity begins at home."

J. D. W. SHERMAN, commission mer. chant 39 and 43 Water street, New York, proprietor of special bonded warehouse for brandy made from grapes, 2 Dist., N. Y. -No. 1, is prepared to make liberal advances on all consignments of California wines, braudies, dried and green fruits, nuts, olives, oils, etc. Correspondence with fruit growers and olive oil manufacturers solicited.

THE CARS of the Southern Pacific Com. pany, especially fitted up and equipped for a three month's tour throughout the Esat, for the purpose of exhibiting California products, are all in readiness to start. Much benefit, will, it is confidently expected, be derived from this novel and practice method of advertising.

THE ESTIMATED expenditures of the United States Interior Department for the corrent year are \$94,220,389, the principal items being pension office salaries, \$2,432,950; peusions, \$81,753,700; Indian office, \$5,571,790; land office, \$1,594,370;

#### WHOLESALE MARKET.

Quotations given are for large lots to the whole sale traie.

CALIFORNIA RAISINS.

Halves, Quarters and Eighths, 25, 50 and 75 cents higher respectively than whole box prices. London Layers, choice per box ..... 82 00% famey 2 00%

Unstemmed in sacks, per lb. ... 1 hours 5100 Stemmed Seedless " per 20-R. box....
" Sultanas, unbleached, in boxes, ≥ B.
" bleached, " CANNED GRAPES

Grapes, Muscat, 245 ns. \$ 1 40 g 1 50. Galls. 4 50c

Sun Dried Grapes, Stemless, sks,..... 3% @ 1 Unsteamed, sks, .....3 1 31/4

### Sugar Quolations

California Sugar Refinery price list dated December 6tb; Circle A. Pat Cabe, 81, c Circle A Crushed, 814c; Fine Crushed, 81 .c. Extra Powdered, 81/4c; Dry Granulated, 8%c; Confectioners' Circle A, 8c; Extra C, 7c; Golden C, 64 c; Star Drips Syrup, in bbls, 171/c; hf do, 20e; 5-gall kegs, 25c; 1-gall tins, 35c per gallon.

Price list of the American Sugar Refinery dated December 6th; Extra Fine Cube, in bbls, 73/c; Circle A. Crushed, 72/c; Pine Crushed, 71/2e; Powdered, 71/2e; Extra Fina Powdered, 714c; Dry Granulated, XX 71, c, Dry Granulated, 71 c; Confectioners' Circle A, 7c; Extra C, 6c; Golden C, 55,c, American Golden Syrup, in bbls, 20c per

LATEST REPORTS from the San Francisco grape market show poor offerings and light sales. Poor grapes sell down to 10 and 25 cents per box, with better quality selling at from 35 to 90 cents per box.

### SAN FRANCISCO, December 1, 1888.

The Bradstreet Mercautile Agency reports sixty-one failures in the Pacific Coast States and Territories for the month of November with assets \$122,072 and liabilities \$286,138 as compared with sixty-nine for the previous month with assests \$167,162 and liabilities \$322,588, and fifty for the corresponding month of 1887 with essets \$354,300 and liabilities \$719, 150.

The failues for the past month are divided among the States and Territories as follows:

	_				
	State	No.	Assets	Liabilitie	9
Or W No	difornia egon ashington evada rizona	11 Ter 0 2	\$83,972 00 26,400 00 3,900 00 7,750 00 50 00	\$180,291 71,617 14,500 15,000 1,700	000
		61	\$122,012 00	\$220,138	C

KATE FIELD writes that she experiences considerable opposition from temperance organizations and their prominent members, in her efforts to preach the "Gospel of the Grape," but feels confident o over- to some extent in the adjoining town of coming their opposition.

at the fact that claret and absinthe are the popular colors for women's attire this fall. An exchange noted for its temper. ance proclivities observes that they feel this the more keenly as watered silk is the ground five or six inches deep, but not sa much used as formerly.

tons actually produced last year, equal to an increase of 443,000 tons, or a crop considerably in excess of that of 1886 87. It is as yet too early in the season to trons, but were forestalled by the keenestimate the various cane crop

#### ALMOND HAISING

The Chico Chronicle-Record says: "Almond growing scens to be coming upon a much more satisfactory basis in this State than it held a few years ago. It was for a time a que tion why the thousands of trees which were finally cut out or worked over into other fruits, chiefly prunes, were unproductive. First, the general verdict seemed to be that the matter of situation or exposure was a prime factor in success with almonds. Later it has come to be considered very largely a question of proper varieties. Whether both these considerations pertain, and which is more important cannot, perhaps, be definitely settled yet, but chough has been learned to warrant almond planting in many parts of the State, providing a trustworthy bearing variety is secured. Fortunately we have a large number of well tested seedlings in the State, notably those of Mr. Hatch. A new vari ty is called the Commercial Almond. It originat of in Tulare county and has beer propagated for a numb r of years, in a small way, in different parts of the State. The tree possesses marked and very distinctive characteristics. It is of peculiarly sturdy growth, the wood being much larger than that of other varieties of almond. It retains some of its leaves during winter, and therefore has been called almost an evergreen. The almond is assuming so much importance at the present time, especially those varieties of California origin which are found to supersede the European sorts, that a promising almond like the commercial is of peculiar interest.

### UGLY BUT ISERUL.

Vick's Magazine is responsible for the statement that the much-despised skunk is a good cutomologist, and the farmer and gardener make a great mistake in persecuting and destroying this humble little animal. The few eggs he purloins from the farmer's heuyard very poorly compensate for the great number of noxious insects he destroys. In May he is sometimes seen, about sundown, on some elevated spot, watching for the May beetle as he wheels his droning flight, and he saves him, too. not in the sense spoken of in the immortal elegy, but between his teeth. He will sit an hour at a time gathering in the destructive beetles. He is a persistent hunter, and in his nocturnal rambles moves along with his nose close to the ground; his sense of smell is so acute not an insect, not a larve, above ground or below, can escape him; his eyes now glow with unusual brilliancy, as he scans every leaf and branch for the hidden prey. About tobacco plantations his services in destroying the tobacco worms are considered valuable.

Several years ago tobacco was cultivated Brighton. The writer, wishing to get a few of the worms to rear moths from, called on PROHIDITIONISTS ARE, it is said, annoyed a gentleman owning a plantation in the town, and made known his object. The reply was: "Take all you can find; we want to get rid of them." In going through the rows I noticed many holes in could not make out the object, as they did not seem to have anything to do with the THE EUROPEAN hest crop is estimated tobacco. I mentioned the fact to the genat 2,850,000 tons, compared with 2,407,000 theman, who smiled as he told me that it was done by skunks to obtain the tobacco worms that had left the plant and buried themselves to undergo their transformascented animals and made to serve as food.

### PLOWING THE ORCHARD.

The Riverside Press is giving some attention to orchard plowing, and tenders suggestions of this kind. "The depth to which a plow should run in an orchard should not be over four or five inches, as deeper than that is liable to injure I ading roots of the trees. In plowing, a great many of the small fibrous roots will be turned up and destroyed by the plow, and it would seem as if it would be a great detrineent to the to e, but apparently it has no more injurious off et than it has on a he d of growing corn. Those who have ever worked among growing corn must have noticed, when plowing or cultivating, the immense mat of growing fibers from the roots which they are constantly cutting. This does not appear to injure the growing corn, for the oftener it is cultivated the better it is, usually. These small fibres are simply the mouths of the I lant, which are constantly drinking up i. I hment from the soil. So it is, apparently, with a growing tree, for no sooner is on set of months, so to sp ak, torn up than another newer and better set is immediately formed. Vegetable physiologists are mainly agreed that the newer those fibrous menths are the more active and vigorous they are.

In the first plowing the soil should always he thrown toward the tree, a single lane being made of each row of trees, leaving the dead farrow in the center of the row, where it will act as a drain for any sarplus rain that may fall on the orchard during the winter. The plowing should always be done so as to provide that the drainage should be as perfect as possible, to prevent washing in a wet season. Unless a wet winter seems reasonably assured the soil should be wet thoroughly before plowing. If thoroughly wet before plowing, it will stay moist the whole winter. If it should be a dry winter it would require plowing about March. It should, in that case, be left until the trees require water, when a thorough irrigation should be given before the second plowing. In plowing the second time it should be reversed-that is, the furrows should be thrown to the center of the row. Cross-plowing is not suitable for orchard work, as it leaves the ground very uneven for future irrigations and exanot be completely leveled without two further plowings,'

### THE THESE DISTILLERS.

In replying to an inquiry the Chience Inter Ocean says: It is thought that the process of distilling liquors from grain was first discover d in India. It is b lieved to have been introduced into Europe by the Moors about 1150. It was said that it was introduced iuto Ireland at some time near the above date. It was first used in Engand at about the close of the century. When first made whisky was used as a medicine. Directions for making usquebaugh or aqua vit: are contained in the Red Book of Ossory, a volume compiled in the fourteenth century, in which it is discribed as a panacea for all discus s. Usqcbaugh was a Celtic name for liquor, from which the word whisky is no doubt derived. But the name whisky was at first given to the liquor distilled by the Scotch Highlanders from barl y only, and had not, until later times, its present more general application. The distillation of whisky from Indian corn was begun by the

#### BLANKET YOUR BORSES

A subscriber of THE MERCHANT, who must e rtainly be accredited with the most humane intentious, sends us the following clipping, with the request that it be pub-

"As the cold weather approaches, every kind-hearted man who owns a horse will provide his animal with a comfortable blanket, both for stable wear and for covering when hitched out of doors. Nor is it a matter of kindness of heart alone, but is really a matter of economy with the owner of the horse. An animal which is kept confortably blanketed will keep in good condition and come out in the apring in better condition for hard work, on less feed than one that is afforded none but its natural protection. The cost of the blanket will be more than saved in the feed, besides adding to the physical comfort and appearance of the beast,

When parchasing blankets, it is an object to get the best for your money, and the cheapest are not always those that cost least at the start. A good blanket, which will prove durable and last, is the cheapest in the end."

### THE WINE PRODUCE OF EPROPE.

The following estimate, says the full Mall Gazette, has been made of the average yearly produce of wine in the various wineproducing countries of Europe, These figures represent hectoliters of twenty-two gallons each.

Urance	(NIC
Italy	
Spain	
Austria-Hungary 14,000,0	100
Portugal 1,000,t	
Greece	
Germany	
Sout ero Russia	
Switzerland 1,200,0	
Servia	
European Tarkey	
Roumania	335

Thus the total wine produced in Europe fairly may be estimated at 125,081,335 hectoliters, equal to about 2,752,000,000 gallons, which, at six bottles to the gallon, is 16,512,000,000 bottles, or about four dozen bottles of wine to each inhabitant of Enrope.

A good wash to prevent the hair from falling out is made with one ounce of powdered camphor and one quart of boiling water. When cool, pour into a bottle for use and cleause the head with it, applying with a flaunel or aponge once a week,

A LIQUID deadly to caterpillars and other animated pests of trees and shubbery comes from boiling leaves and stems of tomato-plants until the juice has been extracted. This has considerable odor, which remains for some time, and the application does not hurt the plant.

FOR THE ten months ended November 1st, 29,429 passengers arrived at this port by sea and 80,150 by rail, a total of 118,-577. Departures during that period were 79,905, making the net gain 38,669 against 26,226 for a similar period in 1587 and 17,-023 in 1886.

A NEW DEVERAGE has been invented in France, intermediate between beer and wine, and which is be sold under the name of barley wine.

A Postuguess wine exhibition opened at Berlin last month. The jury constituted to determine the merits of the var ions samples counted among its numbers. colomists at a very early day in their history. | partners of leading German wine firms.

#### NATIVE WINE SHIPMENTS SEA. OUR

PER P. M. S. S. CO'S STEAMER SAN JOSE, NOV. 23, 1888.

### TO NEW YORK.

MARKS.	shippeas.	PACKAGES AND CONTENTS.	GALLONS	VALUE
J P	Propolli Bernes & Co.	2 barrels Wine	94	871
K&VB.		2 cases Wine	~	10
E K & Co		G cases Wine		30
S S & Go	Carny & Co	15 barrels Wine	750	300
T M	Dr sel & Co	5 barrels Wine,	251	145
F & Co		3 barrels Wine	191	114
к к		2 barrels Wine	101	56
44	11	1 barrel Wine	52	44
MP		1 % barrels Wine	28	24
K		8 barrels Wine	404 303	288
G B	A G Chauche	6 barrels Wine		121
K & F	Kohler & Frobling	50 barrels Wine		1,258 805
L in C		65 barrels Wine	1.117	1.650
B D & Co		10 barrels Wine	503	700
CCo	F 1 Page	20 barrers Wine	984	285
B B	** Denotmend progett !!	11 barrels Wine	27	15
P 11		1 barrel Wine	50	18
D F	**	3 % barrels Wine	81	71
(1.0 & 13o	Williams Dimond& Co.	10 casks Wine	1,091	600
0 0 10 00111111111111111111111111111111	minums, Dialonde Co	-0		
Total amount of Wine	Scases and		12,155	\$6,593

### TO CENTRAL AMERICA.

M R, Corinto	F Meeks	5 cases Wine		(845
+1	- 11	2 casks Wine		38
H C in oblong, Amapala	41	4 kegs Wine	60	24
J C de C. Amapala	S V Mooney	16 eases Wine		66
J M. Champerico	E.L. t. Steele & Co.	10 cases Wine		28
C V. Corinto	Nana Valley Wine Co .	7 barrels Wine	181	118
H in diamond, La Union	Cal Transfer Co	3 barrels Wine	150	75
A P B. Corinto		6 barrels Wine	285	196
KSG, Champerico		10 cases Wine	25	55
J M S. Guatemala		50 cases Wine		175
E A, Acajutla	H P Taylor, Jr	S barrels Wipe	153	115
P A A. Puotas Arenas		5 kegs Wine	100	65
L& Co. Champerico		20 packages Wine	200	120
P B, Guatemala	Cabrara Roma & Cu	1 cask Wine	60	45
L M, Acajuth		2 cases Wine		10
L M, Acajuta	John I Wingdo	10 cases Wine		40
C.C. Assista		3 barrels Wine		75
S S, Acajutla J T & Co, Funtas Arenas	T Twoice to Co	4 octaves Wine	4 5 5	113
J I & Co, Funtas Arenas	o riejes a Co	12 cases Wine		45
J A P, La Libertad		12 cases willers		- 10
0 - 1	1101		1.542	81.448
Total amount of Wine, .	I I U cases and		1,042	C1,440

#### MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSEL,	RIO.	OALLONS,	VALUE.
Honolulu	FritbrofAlameda	Schooner Steamer	1,304 34 70	\$1,415 17
Cbina Japan	City of Sydney	Steamer	265	$\begin{array}{r} 45 \\ 136 \\ 22 \end{array}$
Victoria	Lady Lampson	Steamer	151	114 1,884
Total			7.839	\$3,633
Total shipments by Par Total Miscellaneous shi	nama steamers pments	13,6!		\$8,041 3,633

#### KEEPING GRAPES WINTER

The cultivation of out-door grapes for demestic use, says the American Agriculturist, has become so general that the subject of kesping them for winter use, and the best method, may profitably claim attention. The past season I selected from over one hundred varieties in my grounds forty of those in general cultivation, and a few very recent introductions, to test their keeping qualities. It is the generally received upinion that the thin-skinned native seedlings are the only keepers. This is correct so far as regards preserving flavor, but several hybrids of foreign blood are the best keepera knewn,

The varieties intended to be laid up for winter use should be those only which adhere well to the stem and are not inclined to shrivel soon after removal from the vine. They should be allowed to remain on the viue as long as they are safe from the froat; a clear, dry day is necessary for picking; careful handling and shallow haskets are important. The room in which thay are to be kept for awhile should be well ventilated and the fruit laid out in single layers on tables or in shallow baskets where the air freely circulates, closing the windows at night and in damp weather.

In about ten days the stems will be dried are laid away. When danger from this is place in the meantime,

BURING THE lover, and the stems resemble those of raisins, the time for packing has arrived. I have used baskets for permanent packing, but much prefer shallow trays or boxes of uniform size to be placed one above the other so that each one covers the bex below, the uppermost only needing a cover.

Until very cold weather the boxes can be piled so as to allow the remaining moisture to escape through a crevice about the width of a knife blade. Before packing, each bunch should be examined, and all injured. cracked, or rotten berries removed with suitable scissers; if two layers are packed in a box, a sheet of paper should intervene; the boxea must be kept in a dry, cool room, or passage, at an even temperature. If the thermometer goes much below freezing point a blanket or newspaper can be thrown over them to be removed in mild

Looking them over once in the winter and remeving defective berries will suffice, the poorest keepers being placed accessible Under this treatment the best keepers will be in good order as late as February, after which they will deteriorate.

THE FRENCH brandy trade is in a state of transition, and will not revive until some distilling shall indicate the alcoholic yield sufficiently to prevent moulding after they of the 1888 wines. Few shipments take

## Description of the Blueberry.

The Blueberry is a valuable fruit, and is a reliable fruit to grow in our northern States where the more tender varieties of fruits winter-kill. It is perfectly hardy, having stood 40 degrees below zero without shewing any injury to the most tender buds. It ripens in this latitude about the lat of July, and is borne in clusters like currants; shape, round; reddish purple at first, hnt becomes a bluish black when fully ripened. The flavor is equal to the raspberry, a very mild, rich sub-acid, pronounced by most people delicious. It may be served with sugar and cream or cooked sauce, and is splendid for winter use. The plant seems to flourish in all soils, and is a prolific bearer. It grows very stocky and makes a uice hedge. The shinning dark green leaves and the blue fruit making a pleasing contrast. The demand for the fruit is great, and usually briugs 15 cents per quart. They commence bearing the first year after setting out, and yields a full crop the second and third year after setting out. They are propagated from suckers and root cuttings. The plant is about the height and size of the currant bush, and very stocky, holding the fruit well up from the ground. Plants should be set in the fall and spring, in rows two or three feet apart, and five or six feet between the rows, making a perfect hedge, and no grass or weeds should be allowed to grow between rows.

1 Dozen Plants by mail, 60 cents. 2 Dozen Plants by mail, \$1.00

100 Plants by Express, \$2.50 1,000 Plants by ex. or freight \$15.00

How to send man, \$1.00

How to send money:—I would prefer to bave money sent by American Express order, all sums of \$5.00 and under, cost only 5 cents, and if order is lost, money will be promptly refunded to sender. If not convenient to obtain express order, money can be sent by registered letter or post office money order or postal note, drawn on Portland, Micb. Postage stamps will not be accepted only from our customers that cannot obtain an express order—only those of one cent denomination wented.

Plants are care fully packed in damp mess and delivered to express or freight office, for which I make no extra charge. Address

\*\*PELOS STAPLES, Portland, Ionia Co., Mich.\*\*

DELOS STAPLES, Portland, Ionia Co., Mich.

### FANCHER CREEK NURSERY, FRESNO, CAL.,

OFFERS AN IMMENSE STOCK OF

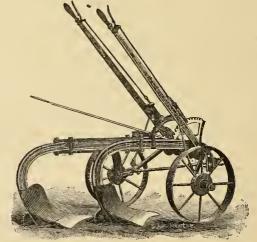
### Fruit Trees, Grapevines and Ornamental Trees, SPECIALTIES:

White Adriatic Fig, Ten Tested Varieties of Table Figs, Olives Pomegranates, and also a Fine Collection of Palms, Roses and Oleanders.

A five-pound box of White Adriatic Figs sent by express to any address on receipt of \$1.50. Send for Fall Catalogue and address all letters to

F. ROEDING, PROPRIETOR, FRESNO, CAL.

### PEERLESS GANG PLOWS.



FOR THE

### SEASON OF 1888.

Have Heavier Beams and Made Stronger Throughout, Than Heretofore,

The Only Steel Beam Gang Walking Plows which will not Clog in Heavy Stubble or Weedy Land.

### TESTIMONIALS

Light draft, strong and durable.—M. Murray, Livermore Has given entire satisfaction.—E. H. Farmer, Gilroy. Superior to them all.—A. J. Huff, San Lucas. Easily managed, strong and durable.—H. Carpenter, Suisun.

For further information, prices, etc., write to

BAKER & HAMILTON, SACRAMENTO SAN FRANCISCO

### OLIVE RANCH OF 448 ACRES,

r 240 acres in one place and 20% in the ill aell at a bargain.

For particulars apply to

W. A. HAYNE, Jr., ANTA BARBARA.

### FARM FOR SALE.

Two hundred acres in Sonoma County, her. Sold together or apart, having ten minutes drive from railroad station. Forty acres planted in the finest variety of vines. The balance rich river bottom, and ar in 1987. Fully equipped with build- rolling land capable of the highest cultivags, agricultural tools, borses, etc. Sixty tion. S veral never failing springs and na of hay and plenty of grain; fine stream plenty of nak and redwood timber on the water. Title perfect. Situated in Santa property. Good house, large barn, and out buildings. Scenery, climate and roads arbara county, near Los Olives depot, unexcelled. Good fishing and bunting in the neighborhood all the year round. One f the most elegant and profitable suburban homes in Northern California.

Inquire of "W. H.," office of the San

INCORPORATED ISSI.

460 ACRES.

## TREES AND PLANTS. CALIFORNIA NURSERY CO.,

NILES. ALAMEDA GOUNTY, CAL.

### ARGEST STOCK ON THE PACIFIC COAST

Fruit Trees, Olives, Oranges and Lemons, Nut Trees, Wine and Table Grapes, Berry Plants, Shade Trees, Evergreens, Shrubs, Roses, Etc., Etc., Etc.

FOR COMPLETE LIST, SEND FOR OUR NEW CATALOGUE,

- - CALIFORNIA NURSERY CO. OHN ROCK, Manager.

Niles, Alameda County, Cal.

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Jopher and Squirrel Exterminator IN I-LB AND 5-LB CANS

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9 & 11 Moutgomery Av, 40 & 42 Fourth Street, 409 & 411 Montgomery Av 101 Hayes Street,

SAN FRANCISCO, CAL.

### L. G. SRESOVICH & CO.,

505 and 507 Sansome St., San Francisco, Cal.

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IN CREEN AND DRIED FRUITS, NUTS, Etc.

DESICCATED COCOANUT, Manufacturing every day. Ask your Grocer for Pioncer brand. It is the best and cheapest in the world. Medals awarded in all Fairs where exhibited.

California's Million Dollar Company:



### OF SAN FRANCISCO, CAL.

		C	APITAL.	ASSETS.
JANUARY	1.	1875\$	300,000	\$ 747,488 45
		1×80		1,160,017 00
		1888		2,181,925 18

### Losses Paid in Twenty-five Years, \$7,500,000 00.

D. J. STAPLES, President, ALPHEUS BULL, Vice-Presiden, WM. J. DUTTON, Secretary,

B. FAYMONVILLE, Asst. Secretary.

# **JOHNSON-LOCKE** MERCANTILE COMPANY,

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#### CALIFORNIA RAISINS.

Few people in the East, says the New England Grover, comprehend the rapid development of the raisin industry of the Pacific coast, of the aereage devoted to it, or the amount of capital invested, says the New York Tribune. A large proportion of consumera is still under the impression that Spain furnishes the entire product. John M. Chapman, whose firm has been appointed as agents of the California Dried Frait Association, has given the Tribune reporter some interesting facts about the management of this luxurious vine product.

Unlike the cultivation of grapes on the Atlantic sea-boards or in the large vineyards of Ohio, the vines are grown without a trellis, being trained so that the laterals curve over the stalk, thus protecting the fruit from the direct rays of the san. The best fruit grows close to the ground, shaded by the broad leaves, Fruit growing upon the laterals is likely to become sunbarned, and can only be naed for making second quality raisins. The first crop matures about Aug. 15 to 20; the so-called second crop from Sept. 15 to Oct. 1. Vines begin to produce at the age of 3 years, and at 6 years are in full bearing. An impression prevails that raisins are made from purple grapes; on the contrary, the misin grape is a trans-lucent green. The principal variety used in California is the white muscat of

The preparation of raisins for market is a rather simple process. The branches are laid on trays exposed to the sun; fermentation begins almost immediately; after two weeks they are turned over, when the under side is cured in about one week longer, the grape assuming the deep purple tint common to raisins. Some of the bunches after leaving the trays are moist, others are too dry. To equalize the moisture and make the goods of uniform consistency, the grapes are put into sweat boxes holding about fifty pounds; there they remain until a proper condition of moisture is attained. Then they are removed to packing houses, and the clasters are separated from the loose grapes and placed in boxes in layers, making what is known as the Landon layers of choice table fruit. Bunches that are too small for this purpose or are of a harsh texture are put into a steaming machine, from which they are antomatically conveyed to a series of trays or sifters, making "crown" or loose raisins of several grades for cooking. Four weeks on the coast, from the maturity of the fruit, render them ready for market.

Grape raising is profitable. A vineyard of good average will yield six tons of grapes to the acre with a value of \$20 a ton on the vines, or \$120 au acre. Older vineyards preduce from eight tous, and fruit brings a better price than the product of younger vines, as it is better adapted to the larger or bauch styles of high price raisius. Thus a 40-acre vineyard, in full bearing, at six years of age would furnish a revenue to the grower of over \$6,000. Labor, however, is high and growers have found it difficult to obtain a full complement of hands to cure a crop needing such prompt attention. This difficulty will be tessened as newcomers thicken. nia produces in quantities only the raisins that compete with the renowned Malaga varieties. The Pacific raisin crop of 1888

Some of this has gone abroad, owing to the small crops of Malaga this year, and the question only is, which exthe latter fact will help to distribute the domestic crop through this country.

Some of this has gone abroad, owing to plant the vines, closer one way than the the small crops of Malaga this year, and the question only is, which extremes are the most desirable? If planted domestic crop through this country.

### PLANTING OF VINES.

It is not necessary, says the, Fresno Expositor, to be an experienced vinevardist to see that the vines in our raisin vineyards and the fruit trees in our orchards are set at improper distances. The object of the frait-grower is not merely to get as large yields as possible but also to handle his crop as early as possible, and to work his land to the best advantage. In regard to raisiu vineyarda nearly every planter has followed the old habit to set 8 by 8 feet. This distance is usual for the majority of wine vineyards, too, and in the south, as well as in Napa and Sonoma, it is yet the choice of the vineyard men. In the European wine districts this distance of 8 by 8 feet would be considered entirely too great. We may search France and Spain from one end to the other and find no vineyard where the vines stand further than 7 feet, and a great many where the distance is 21/2 feet or 3 feet apart each way and no regularity at that. The early California planters decided upon 8 by 8 feet and this has been followed by the majority of vineyardists until quite recently. It was anpposed that our soil in California was so rich that the vines would grow to meet more than anywhere else and bear so much larger crops. Accordingly they would need a larger surface to spread over and had to be farther apart. This theory was undoubtedly correct, especially as regards raisin grapes. As to wine grapes, it has been fully demonstrated that poorer soil and a less space given to each vine produces a much better quality of grape and wine than when the grapes have all they want of the rich soil and abundant space. But there are other sides to the question. The only way we in California can compete with European or foreign labor generally, is to use mechanical and labor-saving driers so as to lessen the cost of raising the grapes and bandling the crop. This can only be done by having abundant space. Even with the vines eight by eight feet it was found necessary to have larger roads at short intervals to enable the wagons to pass, while nuloading the empty boxes and hanling the filled ones away. But the pickers had still to do much labor in carrying the boxes to and from the roads, and in vineyards where these roads were rather far between, a close calculation actually shows that it costs as much to carry the boxes to the wagon road as it costs to pick the grapes. To obviate this, and to enable the wagons to pass everywhere between any two rows of vines in every direction, later raisin vineyards in have been set out 10x10 feet, 10x12 feet, 12x12 feet, etc., the latter, however, being the very largest space given to any vines to our knowledge- But again practical experience shows us that while such wide space allows the wagons to pass, they also make the vines grow more than is good for them. The vines are apt to become too vigorous, grow too much to wood and too little fruit; and it has been found that an acre of vines, where the latter stood 8 by 8, yield much more than where the vines stoad 12 by 12, the greater number of viues counting for much more than the greater size of the vines. There is only

to plant the vines, closer one way than the other, and the question only is, which extremes are the most desirable? If planted 8 by 8 the vines yield as much as they can yield while healthy and without over-bearing. The distance or surface is then 64 square feet to each vine, and to maintain that space should be the object of the planter.

### STRANGE TASTES.

The old saying, that what is one man'a meat is another man's poison, is realized in the opposite tastes of the people, observes a writer in Health Monthly. The Turks shudder at the thought of eating oysters. The Digger Indians of the Pacific Coast rejoiced in the great locust swarms of 1875 as a dispensation of the Great Spirit, and laid in a store of dried locust powder sufficient to last them for several years. The French will cat frogs, snails and the diseased livers of geese, but draw the line at alligators. Buckland declares the taste of bon constrictors to be good and much like veal. Quass, the fermented cabbagewater of the Russiaus, is their popular tipple. It is described as resembling a mixture of stale fish and soapsuds in taste, yet, next to beer, it has more votaries than any other fermented beverage. A tallowcandle washed down with quass forms a meal that it would be hard to be thanful

In Canton and other Chinese cities rats are sold at the rate of fifty cents a dozen. and the hindquarters of the dog are hung up in the butcher shop alongside of mutton and lamb, but command a higher price. The edible birds' nest of the Chinese are worth twice their weight in silver-the finest variety selling for as much as thirty dollars a pound. The negroes of West Indies eat baked snakes and palm worms fried in fat, but they cannot be induced to eat stewed rabbits. In Mexico parrots are eaten, but they are rather tough. The Ganchos of the Argentine Republic are in the habit of hunting skunks for the sake of their flesh. The octopus, or devil fish, when boiled and then roasted. is eaten in Corsica and eateemed a delicacy. In the Pacific Islands and West Indies lizard eggs are eaten with gusto.

The natives of the Antilles eat alligator eggs, and the eggs of the turtle are popular everywhere, though up to the commencement of the last century turtle was only eaten by the poor of Jamaica. Ants are eaten by various nations. In Brazil they are served with a resinous sauce, and in Africa they are stewed in greese or butter. The East Indians catch them in pits and carefally wash them in bandfuls liks raisius. In Siam a curry of ant eggs is a cestly luxury. The Cingalese eat the been after robbing them of their honey. Caterpillars and spiders are dainties to the African bushman. After they have wound the silk from the cocoon, the Chinese eat the chrysalis of the silkworm. Spiders roasted are a sort of dessert with the New Cale-

### THE MYSTERIOUS VINE DISEASE.

The following letter from B. T. Galloway, of the United States Department of Agriculture, Section of Vegetable Pathology at Washington, D. C., recently published in the Santa Ana Blade will be of interest to many of our readers.

that compete with the renowned Malaga views counting for much more than the varieties. The Pacific raisin crop of 1888 greater size of the vines. There is only Professor Scribner relative to the destruction, and that is tive Vine disease has been referred to me.

We have also received a letter from the State Viticultural Commissioner relative to this matter, in which it is stated that the agent acut to investigate the malady has discovered nothing whatever that would in dicate the cause of the trouble. The specimens communicated were received, but unfortunately they were destroyed by a jan tor who was ignorant of their value.

But one examination was made of the specimens before they were destroyed, and this is not sufficient to warrant us in making a report. This disease is certainly on that should be thoroughly investigated and we shall be glad to do all within our power to aid you and the people at large idiscovering the cause and remedy for the disease, if such a thing is possible.

I shall be greatly obliged if you will sen another supply of the diseased wood an some leaves from diseased vines, if it is possible to obtain them at this seasor From what I know of the disease I don't it is caused by a fungua, at least by any of the higher ones, such as the peronospor or unciunla. If there is sufficient interes shown it is possible that we can arrange the send an expert to your State in the spring to investigate the disease. In the meatime I should be pleased to obtain all the facts possible having a bearing upon the meatagle.

It would be well to know when an where the disease started whether it has pread from a given point, what varieties are affected, etc.

Hoping to hear from you often, I remain, respectfully.

### FRUIT RAISING.

We noticed the other day, says the Chic Enterprise, that Hon. Wm. Parker, o Vacaville, was in our city. Mr. Parke was originally from Shasta county, bu afterwards was a prominent citizen of Re-Bluff. Some years ago he bought a trac of land belonging to au estate at Vacaville and has resided there, and made himsel very useful in building up that acction and in doing so has accumulated consider able wealth. Five years ago he represented Solano in the State Senate, and is nor one of the principal men in the Vacaville bank. In purchasing his tract of land h did not propose to hold on to it but sole out all but two hundred acres, which he put in fruit, and now is realizing a hand some revenue from his investment. He explained the mode of gathering fruit in Vacaville, which is a big improvement or the method in vogue here. Ha says tha they have help come from all the surround ing counties, families bringing their tents with them and camping and living right in the orebard, just as if they had gone to the country for outing. There are no payments made hy the hour, but every one is paid according to his labor performed by the weight, basket or tray. By this means all foolishness and play is avoided, a every one is prompted to excel his neigh bor. He says that the white help is far more profitable than Chinamen. He says payment by the day or hour will never make fruit-raising profitable, as the natural instinct of the worker is to take things easy, especially where a lot of young people are brought together. He also says that the women and girls over in his section don't think work in the orchards degrading, but some of the best of then apend their time in the orchards, camping out, enjoying the novelty and making

#### CALIFORNIA FARMS.

The people of Tulare county, says the Times, are loath to engage in any farming r horticultural enterprise that will not promise immediate financial returns. For his reason alone the thousands of acres of and in this county adapted to the cultivaiou of the raisin grape are still plowed and sown to wheat and birley. Yet there s not a farmer who could not have easily ent out a few acres of vines each year, nd thus in a few years hav been able let the nuc rtain wheat and barley crop o and have had a certain crop and inome from his grape patch. In the fruit usiness it has been demonstrated right ere that there is a o rtain income of com \$150 to \$200 in raising peaches, runes and other stone fruits, and a cerin income can be obtained from the land hile the trees are growing by cultivating to potatoes, corn or other vegetables, et there are hundreds of acres of land this section particularly adapted to us industry that to-day grow nothing at wild grass, on which her ls of common ittle and horses are grazel, year in and at, and which return little or no profit a the value of the land.

Thousands of young men in our Calirnia towns and cities are sighing for portunities to engage in fruit growing, hich is andoubtedly the most profitable isiness in the State. They could realize eir desires by making use of the prinple of co-operation. What one man may at be able to do ten may accomplish with se. Shares in fruit-growing enterprises at are put under careful management ight to prove highly profitable. The en is practical. It has been supported d encouraged by A. T. Haich and others the successful fruit-growers.

Frank Congdon, who lives about two iles from Smartville, brought to Marysle recently quite a quantity of oranges own on his place. They are without emiah and free from scale and are of usual size, while the color is higher an is to be seen on the ripening oranges this city. Mr. Congdon says that from th trees last year his daughter gathered er \$75 worth of fruit for lin money. nis year he will have the profits from enty-five trees and intends to plant more th the proceeds.

The reports concerning the grape yield is season vary as much in purport as s several localities from whence they oceed differ from one another in soil d climatic variations. But one condin seems identified with each and every strict-a scarcity of labor.

The markets for California fruits have ly been touched upon around the edges, it were, and the extent of the market our productions will not have been hausted for years to come; in fact, not til every state, county and city in this nion has been supplied with our excelat fruits, California and the Pacific ast is destined to become the fruit garn of this country. The shipments of iits, both green, dried and canned, bave own wonderfully in the last few years, d in many instances the shipments of e last year are double that of the year must be met. evious, and still the demand was not lisfied,

s fairly begun in Santa Clara county. deed much of the pruning is already

at Chico, but is so engaged as not to be taking to urs kindly." able to begin this year. The analysis of the beets which have been sut down have not been r ported, but it is und rstood to be highly favorable. Mr. Spreckels requests all who rused beets to send a lot down. The smiller beets, weighing two and three pounds each, are the ones to send. Mr. Spreek 's prepos to furnish the seed anoth r year, and requests the farmers to plant each one acre. This they can well afford to do, as the erop will be a very profitable on to the grower.

#### CALIFORNIA WINES,

"Yes, our dom stie wine traling is b . ginning to assume considerable proportions," said a well-known wine merchant yesterday in an interview with a reporter of the New York Graphic. "It is not y t twenty-five years old, yet last season California produced 20,000,000 gallons of wine, and it is safe to predict that in ten years she will be sending out 100,000 00). That is a phenomenal development. I mean what has really taken plac , not what I am prophesying. The first plants were introduced from France, but the rich soil so affected them that the wine was thick and dark, much more like Spanish or Italian wines than French, Now, however, by careful gratting and selecting of a gravelly soil, lighter wines, and some with a really fine flavor are being produced. The Ziafaudel, a Hungarian wine, is doing a great deal for California wines. How does California claret compare with French? Well, my dear b y, it do su't compare, for the reason because most of as never saw any French claret. There is mighty little French claret brought to this country. But the California wine may be far superior to what you probably pay for and drink as French claret. That is a mixture of light French with wine from Spain, Italy, and Algeria, countries whose product is so thick and heavy that the Frenchmen will not drink it. The California wines ought to much surpass the mixture; when they don't it is owing to the desire, often the nice, ssity, for quick profits in the business. Interest on money is high in California, and often the viticulturist cannot afford to hold his wine until it is in fit condition for mark, ting. When he can sell the unferment d juic he is glad to do it, and the purchaser instead of allowing it to ferment and become wholesome, dilutes it with chemicals which are rank poison, first, to stop the fermentation and then to give it the [rop r flavor, and then he mixes it with brandy, and puts an injurious, inferior article on the market a good deal sooner and a little cheaper than he could a good one. All wine should be permitted to ferm at for two y are, and after that it improves yearly, but it costs five cents a gallon for every year the win is kept and the demand f r ch ip win s

"We ought not to be reduced to expedientlike these, though, for the Calif rmans with The work of tree planting and pruning harvest wines can undersell their foreign competitors in the lower grades of wines. Paris: and in deal diymer is liquate.

In the higher they will have to liarn several to sine werage waters.

Vegetable meld was found to be quite fire years.

Vegetable meld was found to be quite fire years.

They are rich in alcohol, and the investigator and here years. ne and planting will from this time things before they become dangerous rivals

for Chico and vicinity is about as follows: make time wines; like all artistic products, a minute in of a hil through it Nature.

still disposed to locate a similar factory them to make their own wine, and they are tion for good to locate a similar factory them to make their own wine, and they are tion for good to locate a similar factory them to make their own wine, and they are tion for good to locate a similar factory them to make their own wine, and they are tion for good to locate a similar factory.

#### ALCOHOL EXISTS IN NATURE

A French chemist of emission, M. A. Montz, the direct r of the French National Agronomical Institute, has lately announe d, says the B wers Jo r al, as the result of several y ars of patient inv stigntion and experiment, that he has discov red traces of ale hel as a natural prolest in cultivated soil, rain water, s a and river water and the atmosphere; and that this substance which has up to this tim b u supposed to be formed only by artifical methods, is in fact universally distribut a throughout Nature, though, of course, in exceedingly minute quantities. He has established these facts by the roults of a arly one hundred analysis, xtending over the period above namel, and his methods are at once simple, clear and c uvincing. His method of procedure consisted substantially in submitting samples of rain, snow, river, sea and stwage wat r, ind the like, to repeated careful distilation in a form of apparatus especially contrived for the purpose, and subsequently a sting the distillate for the pres nee of sleohol by the addition to it of in line and carbonate of soda. The liquer thus treated was slightly heated, and in every instance small crystals of iodoform w re precipitated therefrom, a substanc which could not be produced unless alcohol wer pres at. As a crucial test of the c rreaness of this m thol, it was f und that when distilled water, chemically pure, was treated in the same apparatus, the add tion of iodine and carbonate of soli was not followed by the formation of i d form. An additional verification was afford thy the experiment of distilling a quantity of pure distifled water, to which one-mil outh part of alcohol had been added, when the addition of the delicate reagents above named promptly caused the precipi sticu of iodoform precisely like that which bad been obtained in treating natural wat ro.

In the exp riments with arable sale, several oune s from three to sev n of tilled earth, mix d with a pint of distilled water, gave a similar precipitate of i d form wh n treated by the method a ve-

The formation of iodoform by the ddition of iodine and carb nate of 1 11, 15 proof positive of the pres nee of ale hill and the lest, as above noticed in the experim uts with distilled water, is an exquistively delicat one. The substance possesses, likewise, such mark lichar. 14istics that it can readily build itial. has a light yellowish color, and the crystals appear under the mie scop in the form of a star of six rays, very similar to this of ice. M. Multz for thin his vperiments with rain, snew, and see wet s that the percentag of ale ho this e aturned varied from on to sard in . rinths per cent.; cold wat r and public snow contains I more than total waters, He found alcohol in n ne ab . printing in the waters of the river Seu, n i

The status of the sugar-beet business in to great a hurry to get neh out ther to a suc a his batef that the may real dis-General Bidwell recently visit d Mr. that depends agoed d down ral qualities, which has love the up be best Sprickels, and also saw the immerse. Yes, we are even exporting wine the explaintly of the rits right and factory at Watsonville. Mr. Sprick is is South Americans buy of us, it is to chot first a limit of the firm into A' r bing fr., li tas anir, it is ntdfictionlr-tribown culdt diss mat d in the amphir by sap win, and sale que y finites way I , up n the orth by long erried d wu with the que as spers, as these re les linle itit liuth form

> By the introtic reality M Manta have quietly etal isheld fact t it il is a uit ra prilot, frm 1 on noh the ar ney of natural esames

Our total abstinuc firmly who have hitari wik mully a a rt I that God adswit ralth D vi suls alcoh l. will now be user the paint i neer say of shaudy ing a fay rit dig a that has d no much savicin the conhas afford des the demonstrate a that deshot, lik wat r. is the sponfin his production of N ture, and the r sponsibility of its on in it to r for true fored to Him; and the 42 tion is, Whit are they 5 ing to deat ut it? We suggest that they summen the regalia bearing cans to a great inlighten in ting, and lel gat their Grand Wethy Panjandroms and High Makamuks to pass resolutions xpressiv f their s pr m disgust.

#### MARKING A REGINNENG

As a proof of what Butte Lounty will do in fruit ruising, says the Biggs A ges, the rent shim ut of drill ich s, prunes and apric ts, and th 5 1 unds of faisi s new in the wir houses are but a guning. This fruit, hi h was raised on the July John Boal plan, ag riof the celebrat d all ivial s . of th Rio Bonito colony trait, was all ruse I with ut a drop of wat r oth r than that fur shed by th uls, and the drid frait is pron une d by exp rts and deal rs equal to the highest pried dri I fend that is mark I mywhere, From the lact that there has a but attle ship of fronthis softon her tif re, to protect a his veb n mil fr gropey car gorde boxing the free tests I neut other pacs where their raising is flugr stanii Bitts e un h n f rth is f in past. To Biler. carlas be ming not life its excellent grade of dried fruits and many orchards that have already come a not to bear, and and thin igain the thousands facts f trees that wis be pare 1 form now on, very year, with the ir! tir bind m Butt county sir little in as a figuration ing cut r to such an exal, t t wh u v ry ava able are i to a a plantliter ath dand and or t tinth supy. Ih my a saul nwell at it muse the his lin b ista veth well-ulth ha the vite to his in resid sifr the value tise it try is

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#### HOW SOME KINGS DIED.

Henry I, of gluttony. Edward VI. of a decline.

Charles I, on the scaffold.

Richard III, was killed in battle.

Henry VIII, of carbuncles, fat and fary. George III, as he had lived-a madman. George IV, of gluttony and drunkenness, Henry VII. wasted away, as a miser ought.

James I. of drinking and the effects of vice.

Charles II. suddenly, it is said, of apo-

Edward V, was strangled in the Tower by his quele, Richard III.

William Rufus died the death of the poor stags which he hunted.

Henry II. of a broken heart, occasioned by the had conduct of his children. George I, from drunkenness, which his

physicians called an apoplectic fit. William III, of consumptive habits of

body and from the stumbling of his horse. Edward III. of dotage, and Richard II. of starvation-the reverse of George IV.

Henry VI. in prison, by means known then only to his jailer, and now only known in Heaven.

William the Couqueror from enormous fat, from drink, and from the violence of

George II. died of a rupture of the heart, which the periodicals of that day termed a

visitation of God. Richard Cour de Lion, like the animal from which his heart was named, died by an arrow from an archer.

Edward II, was barbarously and inde. cently mordered by ruffians employed by his own wife and her paramour.

Henry V. is said to have died of a " painful affliction prematurely." This is a courtly term for getting rid of a King.

Edward I, is also said to have died of a "natural sickness" - a sickness which would puzzle all the college physicians to denominate.

Henry IV. is said to have died of "fits caused by uneasiness," and uncasiness in palaces in those times was a common com-

#### THE OLIVE IN SONOMA VALLEY.

G. F. Hopper of Sobre Vista farm located a few miles west of Sonoma, in giv ing his experience with the Mission and Picholine varieties of olives, says: "In 1880 I bought from Mr. Weat of Stockton fifty Picholine olive trees; these were planted on the hillside in good rich loamy soil and have been well cultivated each year. This is the first year that any of them have borne fruit-a few trees having a few olives on them, and the berries are small. In land adjoining this I planted in 1875 or 1876 about one hundred Mission olive cuttings. The growth of these has been very fine and the trees have been bearing for the last eight years, the crop being heavier each year. They are free from all pest except a little of the black scale which made its appearance some two years ago; was soon overcome by an application of a wash of concentrated lye, whale-oil soap and sulphur, applied at 130° F, in Joly. The following October we gave the trees a washing with sal-soda and water at the same temperature. The trees are planted twenty-four feet apart. The Mission trees planted in 1875 are from ten to twenty inches in diameter, and the Picholine planted in 1880, the largest, are about four nches in diameter."

A Boston grocery firm were in the habit of putting the residuary cash at night in a bag and depositing it in the oatmeal barrel. The other day a small boy called early for some oatmeal, and one of the firm served him, giving him, along with the meal, about \$140. Since that time the Boston newspapers have been printing advertisements offering a liberal reward to the boy if he would call at the store. At last accounts the boy hadn't called.

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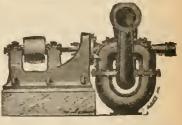
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strength and aroma.

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tation of young wines

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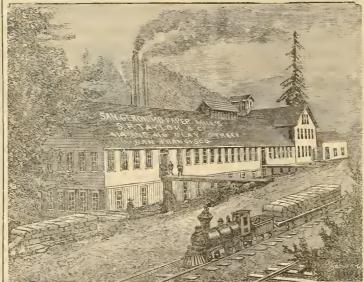
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San Jose		LEAVE S	PROM OCTOBER 15, 1888.	ARRIVE		
South   For Sucramento and for Redding via bavis		7 30 A	For Haywards, Niles, and t	*12.45 p		
Redding via Pavis.   12.43 P   6.15 P			San Jose			
South   Sout		7.30 ∧	Redding via Davis	*12,45 p		
S.00		S 00 A	ForMartinez, Vallejo, Santa     R sa and Caloroga (	6.15 p		
10.80 a For Haywards and Niles		9,00 A	Galt, lone, Sacramento,   Marysville and Red Bluff.	8.45		
10 30 a For Haywards and Kiles   2.15 pt     12.06 u For Haywards and Kiles   3.45 pt     13.00 pt     3.00 pt     3.00 pt     4.00 pt     5.00 pt     6.00 a     7.45 a     7.45 a     7.45 a     8.00 pt     6.00 a     7.45 a     8.00 pt     7.45 a     8.00 pt     6.00 a     7.45 a     8.00 pt     7.45 a     8.00 pt     8.0		8,30 A	Fresno, and Los An-	11.45 a		
12.06		10 30 A	For Haywards and Niles	2.15 P		
1.00   Sacramento River Steamers   0.00 A   0.			For Haywards and Niles			
1.00 r		D.B A	Fast Mail for Ogden and East	12,15 #		
San Jose   Cantral Atlantic Express   for Ogdett and East		-1.00 r	Sacramento River Steamers	** 6.00 A		
3.00   C. ntral Atlantic Express, for Ogdet and East		3,00 •		9,45 ▲		
4.00		3,00 p	(C. ntral Atlantic Express, )	815 A		
4.30 r   For Sacramento, and for   Substance   Subst		4,00 r	For Stockton and Milton; for Vallejo, Santa Rosa	10.15 a		
1.00		4,30 r	For Sacramento, and for   Knight's Landing via Davis	9,45 A		
7.45 A   Shasta facute Express, for Secramento, Marysville, Reddinz, Portland, Pluget Sound and East   7.45 A   Sunsct Ronte, Atlantic Express, for Santa Barhara, Los Angeles, Dening, El Paso, New Orleans, and East   8.45 P   8.	*	4.30 r	For Niles, San Jose ood	* 8,45 A		
Shasha Route Express, for   Sacramento, Maryaville,   Reddinz, Portland, Puget   Sound and East   Sounder Route, Atlantic Express, for Santa Barhara, Los Angeles, Denning, El Pasco, New Orleans, and   East   Sacramento   South Pacific Coast Railway Olysion.   17.45 A   For Newark, San Jose and   Santa Cruz   Sounder Creek, and Santa Cruz   For Centerville, San Jose, Felton, Boulder Creek, and Santa Cruz   For Centerville, San Jose, Felton, Boulder Creek, and Santa Cruz   Sounday & Coasta Cruz   Per Centerville, San Jose, Felton, Boulder Creek, and Santa Cruz   Sounday & Coasta Cruz   Per Centerville, San Jose, Felton, Boulder Creek, and Santa Cruz   Sounday & Coasta Cruz   Sounday & Coasta Cruz   Per Centerville, San Jose, Felton, Boulder Creek, and Santa Cruz   Sounday & Coasta Cruz   Sounday & Coasta Cruz   Per Centerville, San Jose, Felton, Boulder Creek, and Santa Cruz   Sounday & Coasta Cruz   S		5.30 p	For Haywards and Niles	7.45 A		
Sound and East    Sound and East    Sunsot Ronte, Atlantic Express, for Santa Barhara, Los Angeles, Deming, El Paso, New Orleans, and East    South Pacific Coast Balkway Olvision.     7.45			Shasta Route Express, for Sacramento, Marysville,			
SOUTH PACIFIC COAST BAILWAY OIVISION.  1 7.45 A STATE OF THE WAY O		8,00 P	(Sound and East) (Sunset Route, Atlantic Express, for Santa Barhara, Los Angeles, Deming, El.)	8,45 p		
1 7.45 A	_		( Eust)			
Santa Cruz		SOU	TH PACIFIC COAST RAILWAY OIVIS	10N.		
S.15 A	1	7.45 A		\$.05 P		
* 2.45 r   Creek, and Santa Cruz   For Centerville, San Jose, Felton, Boulder Creek and Santa Cruz   * 10.50   For Centerville, San Jose, A.15 r   Almaden, and Los Oatos   9.20 a   A for Morning. * Sundays excepted. † Saturdays only. † Sundays only.		01= .	(For Newark, Centerville San)	g 90		
* 2.45r   For Centerville, San Jose, Felton, Boulder Creek and Santa Cruz		O.10 V		0,20		
A for Morning.  A for Morning.  P for Afternoon.  Sundays excepted. †Saturdays only. †Sundays only	*	2,45 r	For Centerville, San Jose, Felton, Boulder Creek	• 10,50		
*Sundays excepted. †Saturdays only. †Sundays only	_		Almaden, and Los Oatou			
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1888

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 BELGIC
 SATURDAY, JAN, 5th

 AR 4 BIC
 THURSDAY, JAN 24th

 OCEANIO
 WEINESDAY, FEB. 13th

 GAELIC
 SATURDAY, MAR, 2nd

 BELGIC
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VOL. XXI, NO. 7.

#### SAN FRANCISCO, DECEMBER 21, 1888.

#### PRICE 15 CENTS

### ITALIAN VITIGULTURE.

THE VINE, WITH CHARACTER-ISTICS OF WINES.

In Interesting Account of the Wine Industry, furnished by the General Italian Wine Growers Association |

[Continued from page 83.]

In the Venetian provinces the vine culure is very extensive, and has the advanage of possessing a termin situate at three lifferent altitudes. 1. The plains from he sea to the hills are cultivated with vines, generally associated with trees and producng black grapes. 2. The Eugenei and Berici hills, yielding black grapes as on the dams, but sometimes trained on trellis vork instead of trees. 3. The hills and iplands of the Lower Alps, and the slopes of the large valleys in the alpine district, there the finest black grapes are produced, In the side of the Lake of Garda, as far as Bassano on the River Bronta, white grapes re most generally grown.

If the large number of vines cultivated in the Venetian territory would but give a sigular supply, there would be a large surplus production applicable to exportation. But the cultivation of grass has in some ocalities been extended at the expense of he vine, and as the very mild climate during the months of veg tanon is very favorable to the oidinin and mildew, there has been a continual importation of common able and blonding wines, more especially rom the Southern Adriutic provinces.

But, should the temporary causes which it present k p back the production disapsear, the Venetian plans would be able, hiring som years, to export a portion of heir Red Wines, which are of a high color, pool body, and have the advantag of seing low in price.

On the hills, the crops suff r less than hose on the plains, and as the exclusive ystem of cultivation is being extended, the production is continually increasing. Networkstanding this, the profits are less than n other provinces, as the expenses of cultivation are greater, and the failures more requent.

In the district of Verona, are produced those excellent table wines known as Valpolleelia, Valponlena, &e.; wines which are not of a very intense color, but sufficiently alcoholic, of an agreeable fliver, and, when old, possess a very delicate bonquet. This district has a surplus production applicable to exportation.

Red table wines are also considerably produced in the province of Vicenzu; but the greater part of its production is represented by dry and agreeable white wines, these qualities are most extensively produced on the hills at the head of the valley of the Piave. From the white grapes of this district good sparkling wines are also made.

At Verona, one may easily obtain ad mission to the estates where the best Val policella wine is produced.

The approximate composition of the principal Venetian wines is as follows:—

Description
Common Willes of Verotta
Corono and Con Table Wines 7 " 11

The average production of wine in each Venetian province is as follows: -

			Hot	I fres.
Versua			315	G131313
				,500t
Be Inno			4~	TIME
			7:2	300
Treviso			159	500
Venice			131	19:30
Parlus			311	1, (111)
Rovigo			57	(200)
			-	
Total a	reesal peudi	u tion	1,300	1, " JU

This production compared with the number of the inhabitants of each particular district, gives the following averages —

1	Av	: FERE	
-	r roduc	to next	
	Districts. Wind	n Dier	
50 .	inhabi	tant.	
-	I	itres.	
7	Verona Bardolino. Capring Veronese Cologna Veneta. Isola della Seala Legnaco. S. Bonifacio Sanguinetto. S. Pictro incariand Tregnago. Villa franca di Verona	53	
)	Bardolino	210	
3	Capring Veronese	110	
2	Cologna Veneta	16	
- }	Isola della Scala	20	
	Legnago	. 31	
	S. Bonifacio	1.1	
,	S Pretro incorpane	152	
	Tre maro	102	
	Villa franca di Verona	163	
	Average for the Province of Verona	. 35	
2			
	Arzignano	136	
,	Asisgo	015	
	Barra A	50	
E	ion: o	133	
,	Marostica	14/5	
	Schio	37	
ı	Thiene	. 15)	
	Arilgoano Arilgoano Bari arano Bari arano Lenizo Marostica Schio Thiene Valdagno	. 3.5	
۱	Vicenza	. 31	
	Average for the Province of Vicenza,	68	
	Sitting the rigitate of vicenza,	00	
	tuonia	0	
.	Agordo	ő	
ų	Belling	5	
	Feltre	72	
	Auronzo Bellino Feltre Fonzaso	10	
IJ			
	Pieve di Codore	- 0	
-	Average for the Province of Bellano	25	
ш			
		0	
1	Con late the Ewirth	16	
-1	Calmino	10	
- }	Gemons	7	
-1	Lausana	51	
	Maniago	10	
	Monago Edinese	. 0	
ı	Palo so NA	15	
П	POPUL RODG	14	
н	S Daniel def Frank	5	
	S. Pietro al Natasone	253	
	Ampezzo Coadale dei Friult Codroijo Giemona Lati-sana Maniago Mragio Edinese Palimanova Proflessoe Signe Sig	21	
	Splimbergo	2%	
	Tarcento	27	ľ
	splimbergo Taccento Tolmezzo L dine	. 0	
	Cultive	-	
	Average for the Province of Udine .	15	
	19	5%	
	Cast ifrat Vereto	1.1	
	· welland	. 61	
۱	Mon . 1 14	31	
	Non- 1-11	23	
- 1	Tr 5 40	135	
	Tr v 40 Val ol iadene	345	
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			1
	Chiocosa Dello		
ч	Chorgia Dalo Mestre Mestre Mestro Personale	24	
1	Dello	123	ľ
	Mestre	13	
		355	
	5 De ma di Piar	30	i
	P resgrusco	,	
۱	Average for the Province of Venice	37	
۱	ta po S Per	, = <sub>6</sub>	
		. 24	1
	Cittade la	103	ı

Average for the Province of Ladua.....

				I.	itrez
Adria					13
Ariano nel Polesine					23
Rad's l'olesine					
Lendinara					21
Massa Sup					
Pachiobe lo					
l'olese la					54
Rovigo					113
					-
Average for the Provi	BCc I	of Ro	TI,TO.		2.5

Reci n .... 19 The following are the best establishments of the district:—

Comin Cesare Trezza, S. Ambrogio di Nogare, red wines.

Nogare, ted wines.

Bertani Bros., Verona, rell wines.

Count Miniscalchi Erisco, Verona, red wines.

Comm. Bartolomeo Clementi, Vicenza,

Filppo nob, Chieliu, Braganz

ed wines

Count De Schio Costozza, red and white wines.

Count Augusto Corinal li, Padua, red and white wines.

Count Ottavio Collabte, S. Salvator sul Piave, white wines.

Connt Balbi Valiar, Pi v di Soligo.

Curp ne & Malvojti, Caneg mn., sparkling wines.

Count Papadopoli, S. Polo di Piav white and r I win s.

M sers. Carpene & Cambour h v a manufactory at Coneghano, for the 10 ja ration of the Enocurous, a coloring liquid extracted from the r fuse of the grapes. They have also a branch for this industry in Grottam re, Abruzzo.

LIGURIA

This is a rough mountainous con try, which produces v ry 1 ttl , b t furni x juisite win s, with d he to be uju tandiv r, which are purchas d un the estite thigh prices, on account of which very little can be exported from Ligaria, Ameteothers her produced are the femilian with f tie -terre, which in anci at times we ught and sold in R me. A'th ugh n t so fin , the win a obtained from the rich sall at the bott m of the val years go 1 but the culture of the via her is not ex clusive, but mix d with oth r crops A large quantity I th propes is k pt f rtab use, and a c rtain quantity is also exp rted Luscany Sardima and Stelly supply a g - d half f the win consumed in this renor Throughout the whole year large quantance

of wines of well-known styles and brands are deposited or sold at the port and on the docks of Genoa; and it may be said that this is the most important wine market in Italy. For establishments where wines are kept and blended, to prepare them for exportation chiefly by sea, for direct consumption, those of Genoa rival any at Cette or Bordeaux.

The few wines which are obtained from the mountainous coasts of Ligaria, which are principally White, may be esteemed first-class. They frequently possess 14 per cent, of alcohol, but as a rule the proportion is between 10 and 12 per cent.; their acidity is rather low, being from 51/2 to 6 per mille. The amount of dry residue is high, generally varying between 22 and 28 per mille, the sweet wines containing as much as 70 and 80 per mitle of dry residue including sugar, but these are only produced on a small scale. The average production for each province ia:-

	220010114101
Porto Maurizio	
Genora	.292,600
Massa Carrara	75,600
Total production for Ligaria	.414,400

This production, compared with the population of each district, gives the following

averages:-	Ī
	Average
Districts.	production pe
	Inhabitant,
	Litres
Porto Maurizio	35
S. Remo	35
Average for the Province of Porto	
	Litres
Albenga	45
Chiavari	52
GenoaSavona	20
Spezia	
Average for the Provioce of Gen	.oa 33
Castelnuovo di Garfagnaoa	69
Massa Carrara	39
Poatremoti	31
Average for the Province of Massa	Carrara 45
Average for Liguria	35

The chief growers are:-

Marquis Giacomo Durazzo Pallavicini, this country for relief. Pegli, represented in Genoa by Negrotto &

Marquis Giov. Maria Cambiaso, Genoa. Marquis Givolamo Gavotti, Genoa,

Marquis Lazzaro Negroto Cambiaso, Ganoa.

Cav. Cristoforo Accame, Pietra Ligure. Marengo Giovanni, Loano.

Cav. Cenia Maurizio. Beverino (Genoa) Cav. Engenio Rambaldy, Piani (Porto Maurizio.

Van Eya W. V. S. Remo (Porto Maurizio). Biancheri Bros., Ventimilia.

To be continued.

#### ABOUT OLIVES.

There has been a great deal of talk lately about olives. The Pomona Times contributes this advice to the general fund of information: "Don't get the idea in your head than an olive tree will thrive and do well anywhere and under any kind of treatment. This is a mistaken notion which has some way gained credit in Californis. The olive will grow, to be sare, in the rocks and so will an orange tree, but neither will do so well unless they have a good, rich soil to support them. The moist lands are not suited to the clive, but to insure success it must have deep, rich, dry soil and it needs cultivation and care the same as oranges or lemons. California olives are much smaller than the imported ones; and probably the reason is that in the State they are neglected and left to their own chances.

#### CALIFORNIA WINES.

Why They Are Equal in Quality to the Best European Vintages.

The following interesting article by I. H. Connelly, appears in the latest issue of the Analyst :-

"Who drinks California wine?" That was a common sneer a few years ago upon lips of prejudiced foreigners and pretended bon vivants. Importers of, and dealers in, the alleged wines of Europe were deeply interested in decrying an American product that, if popularized, would inevitably sadly minimize their business very speedily. Se they talked learnedly of the "tartar" in California wines; professed to find in them a most offensive "earth flavor," and denounced their "froitiness" as something nubearable to an educated palate. Aping their pretensions to knowledge, the dealers were echoed by sham connoisseurs, who were generally incapable of distinguishing Pontet Canet from a vin ordinaire if they did not eatch sight of the labels. Among these it was quite common to hear the affirmation that "one glass of American wine would make me real sick, doucherknow, and the younger, more inexperienced, and absolutely brainless they were, the more unqualifiedly did they denounce all American wines as "beastly stuff, by Jove,"

But now that question may be truthfully answered-"nearly everybody who drinks wine at all drinks California wice, either from intelligent choice or under the hallucination that he is imbibing a foreign article." The intelligent viticulturists and wine-producers of Europe-two very distinct classes of beings, it may be remarked -had long appreciated California wines at their true value, realized the almost boundless capacity for their production, and, when the phylloxera and anthraxnose invaded and destoyed the European vineyards, were prepared to turn at once to

Does any drinker of European winesor, to speak more properly, of beverages supposed to be such-ever think of how strange it is that while thousands upon thousands of hectares of vineyards in France, Germany, Italy, Spain, Portugal and Madiera were completely destroyed by the pests mentioned, the production of wine from those countries, instead of falling off, actually increased? Territories where the vices were fewer by from 40 to 60 per cent, shipped more wine than ever; choics vintages, of which the producing vines were absolutely extinct, were as abundant as ever, and at little, if any, advance in prices; and, though the vineyard proprietors were ruined, the exporters of wines to the United States and their agents here, made as much money as they ever did, if not more. The explanation of it all is in the one word-California.

It is related of an aged wine manufacturer, who was dying, that, in giving his farewell injunctions to his eldest son and heir, he said: "Always remember, my son, that you can make wine out of anything except grapes." That was well-understood wisdom among the wretches who shipped to us many hundreds of thousands of gallous of bogus European wines-long before the phylloxera made its appearance -from Cette and Hambn'g. Those bogus wines were simply potato-spirit, water, acid coloring matter and flavoring extracts. Nothing more free from objectionable qualidelicious to our contemners of American tariff upon wines imported in bulk, which wines, though of course it was admitted that they did not possess such fine "boquet" as certain other avowedly vinous products from Europe that were higher priced and differently labeled.

The alarmingly enormous decrease in real wine production inspired among Eurepean wine manufacturers the happy idea of carrying their deceptions to a higher grade of wines than the cheap ones that they had previously been making as already described. It was, they understood, necessary to have genuine wine to deceive certain classes of drinkers-those who were willing to pay good prices for hottles bearing labels with which they were acquainted. So Califoroin wines were carried by ship-loads to France, Germany and Itlay, there to be doctored slightly with flavoring and coloring matter, bottled and re shipped to this country as the products of European vine yards, in which guise they were naturally quite free from "tartar," "carth flover" and "fruitiness," and were endowed with all the precious gifts of "flavor" and that, quet" that might be expected from their

The work is going on to-day more than ever before. Three bottles out of four o onr most aristocratically titled imported wines, if they had voices, might hon stly chorus upon lauding here: "Home again home again! from a foreign shore!" those who drink those wines have little really to complain of, beyond the fact that they are paying fantastically high prices for what they might have cheaply and of better quality were they not swayed by affected prejudice against the use of native products. Gradually they are learning this fact, and consequently joining the already great army of American wine-drinkers,

It must be frankly admitted that a good deal of the wine produced in California twenty years ago was rather poor stuff. There were few among the earlier wine growers there-except the "fathers" at the Spanish missions, who made the superb wines—who had any practical knowledge of the delicate processes for making and keeping wine. They vaguely supposed that there wasn't much about it different from eider-making. As for the nice knowledge of the exactly right moment for racking off wine from the barrel in which it had made its deposit to a fresh one, or the imperative necessity for keeping wine at a regulated temperature and in full barrels, and many other things belonging to the mere radiments of the art they knew absolutely nothing. Then they were generally affected by an insatiate greed for enormous profits.

Nobody in any business in California in those days would bave been satisfied with such profits as accrued from like industries in the Eastern States. The men who owned vineyards thought they ought to pay about as well as gold mines. They heard of wines being sold at several dollars per bottle, and being dazzlingly ignorant of the existence of any great difference between wines, could not see why theirs were not worth as much as any others. It was with amazement and indignation that they learn, ed that the bogus wines of Cette and Hamburg were selling in New York for less than the actual cost of production of their winesand were actually preferred. In the first finsh of disgust produced by that discovery, some of them rooted up their vines and Nothing more free from objectionable quality of "fruitiness" could possible be conceived. But their foreign labels made them for "protection" in the shape of a heavy Numm's. Couldn't you fix up some so abandoned the basiness forever, Those

would so increase the cost of the imported bogus wines as to enable the Californi viotners to undersell thom in the Eastern market. They got what they wanted, bu with strange fatoousness at once telegraph ed to their New York agenta that they re quired their wines to "appreciate in valu to the extent of the tariff just imposed. It was a pretty illustration of the heneficial effect of "protection," Of course, the im porters had it all their own way, but th Californians were stubborn, and held out good while. One man who had 16,00 gallons of fairly good wine stored down town had an offer for it that would hav given him a good profite No; he wante more, and would not sell for less, and h held on until his uncared-for wine turne to vinegar, and was practically a total lose And there were many like him in lesser de

As time were on, however, great chang rept into the California wine manufactur-Men from the wine producing districts o Europe, skillful, careful, patient, and cor ent to conduct the business on a legiti uate commercial basis, went to Californi and either took charge of already exista viceyards or started others of their own bringing to the service the ripe experience of generations of wine producers abroad They made wines of such excellence as as founded the connoisseurs of the East an of Europe. Poor Gustave Mahe, presiden of the French bank in San Francisco, wh shot biroself during an aberration of intel lect caused by illness, was one of the firs to produce an exquisitely fine wine in Cal iforois. He made at his vineyard what h called his "Golden Wine," which wa like an ideally perfect Sauterne, even fine than Chateau Yquem, and bad he lived h would have exercised a highly beneficia influence upon California wine production

The man who deserved most individua credit for dveloping the now vast wine interest of California, was Arpad Haraszthy He, at an infinite outlay of patience, labor time and money conducted experiment upon the varieties of grapes best adapted to wine production on California soil ande the varying conditions afforded in the country; taught vine growers how to harvetheir crops, make the wines and keep them trained men in the arts of manipulating and blending those wines to produce essentially different qualities of excellent wines and as a member of the firm of Landsberger & Co., from which connection be long sinc retired to build up a business of his own was the first to manufacturer an exceedingly good genuine California champagne. Tha champagne, by the way, was the materia for many a practical joke in the earlier years of its production. Californians had a mania for champague. They possessed an idea that it was gond for the stomacl and no mixed drink sold over a respectable bar was deemed complete without a dash of champagne in it. As they paid for the best, they were determined to bave what was highest priced and so supposably the best imported champagne. Importers of that costly beverage

artfully kept up the fiction that no champague was genuine but that which came from France. Constantly, however gentlemen were making acquaintance with Haraszthy's champagne, through the intervention of friends and pretty much every one, finding how good it was would say hat they couldn't tell by the labels what t is? I'd like to play it on them." The outcome of that frequent demand was the reparation of a small stock of bottles, nerely for such practical jokes, with enuine foreign labels stripped from imorted bottles and corks brand d to match, out containing the California champague. The instances in which the deception was letected, though it was practiced in hunlreds of eases at least, could be counted on me's fingers and thes and many jolly supers at "The Poodle Dog" were paid for as he penalties of the over-confident would-be connoisseurs who assumed to "know it ill." It is but just to say that no such deeption was ever practiced in commercial ousiness under Haraszthy's management. Ie was too proud of the fine wine he proluced to permit it to go under a false label, xcept for an occasional practical joke, and it was wine worthy of his pride. But ie has produced better since. Year after ear the vineyards supplying the several hoice varieties of wine blended in his 'Eclipse" brand of champagne have been nore and more perfectly managed in couormity with his requirements, and the esults attained have been proportionately mproved. Large capital and a perfectly appointed establishment under his peronal, liberal, enterprising and skillful conrol, have also greatly increased his advanages. These and other causes, needless of particularization, have conspired to enable is attaiument of that which has been his goal from the commencement of his work on the l'acific slope, viz.: The production of a Cal fornie champagne that ranks, in he estimation of all gennine connoisseurs, is equal to the best of Enrope. And his endeavors have been well rewarded. Califormin champagne is now popular not only n this country among intelligent wineirinkers, but in Europe, where Haraszthy's "Eclipse" bolds its own, even in France, against the French champagnea, appearing everywhere on the wine cards of the best clubs, finest botels and most fashionable estaurants. The fact admits of no question hat California champague has "come to stay,"

And the same may truthfully be said of the California still wines, both dry and sweet, n their many varieties. The popular appreciation of them has been of slow growth, for it has required nearly twenty years to bring them into such favor, but it is now firmly established at last. A number of the more important producers, both firms and companies, now run their own establishments here in Now York for the direct tale of th ir wing to consumers without the intervention of middletown. By so doing they attain at least two good results, viz. the supply of their products at prices which, though yielding them a fair profit, are much below what they could be by any of her mode of handling practicable; and the absolute certainty that their reputation will not be made to suffer through any of the wicked arts of extension, fortification, etc. known to the enuningly middlemen. Selling for themselves they have positive knowledge that every drop of wine sold under their brand or label is absolutely pore, just as they made it, and are able to conscientiously swear to that if required.

That is a very important matter, not only for the immense advantage that it gives in competing with the importers of cheap bogus wine, but as the most effective means of repressing the fraudulent imitations of California wines manufactured with the control of t

tured and vended in the East. Alluding to those imitations serves as a reminder that one of them especially deserving of cautionary mention is the fraudulent "fizz," falsely called charopague. Gennine champagne, whether made in one part of the world or another, is always produced by one and the same process. The juices of different varieties of grapes, made into still wines, are skillfully blended in varying proportions so as to produce by their combination exactly the flavor, strength and color desired, are then bettled, and are fermented in the bottle. After a certain time, when that fermentation has reached the proper point and the wine has thrown down its sediment into the neck of the bottle, the sediment is removed by uncorking; a little old wine with rock candy dissolved in it is added to take the place of the wine lost in the process of uncorking, and afford material for making more carbonic acid gas, and the bottle is recorked. The bogus cheap stuff, mendaciously called American champagne, is very differently made. A quantity of the cheapest, sour, low-grade wine, hardly distinguishable from vinegar, is "extended" with water, sweetened with clucose, tiuted with aniline dyes, or some other coloring matter, strengthened with alcohol and flavored a little with soma extract or essential oil in minute quantities. This concection is bottled and charged with carbonic acid gas made by the action of sulphurie seid upon marble dust. When it is all finished and ready for market, the wire and label upon the bottle are each worth more intrinsically, and have cost more, than the contents. lumliting to the palate and injurious to both brain and stomach, the vile mixture should be fabooed by law, its mannfacture for fools at home made a misdemeanor at least, and its exportation, for the damping of the fair fame of our good wines abroad, be punished as a felony. There are evil practices in the treatment of still wines, to render marketable those otherwise unsalable, to coarsely simulate others of higher grade, or to adapt them to depraved and vicious tastes; but these are generally confined to sweetening with glacose, fortifying with brandy, and doctoring the flavor with only moderately harmful aubstances, consequently are somewhat less abominable than the bogus champagne manufacture,

This is all a very unpleasant branch of the subject and is only referred to as a warning to wine drinkers and to enforce what has been said of the ample security against such dangers'afforded by companies dealing directly in their own goods with consumers. Unhappily, since California wine has grown so greatly in popular favor, and its production has become a business interest of such enormous proportions, it is no longer a sofficient guarantee of the purity of a wine to know that it certainly comes from California. There are yet there ignorant viticulturisits and incompetent ners who, year after year, produce only bad wine, fit for nothing but conversion into poor vinegar, or to serve as the basis for manipulation by unprincipled men whose malche skill enables them to make it seem good to those who are not expert judges. Both bogus champagne and still wine are made there, just as well as in New York. Hence, it is judicious to buy only from thos of established reputation who deal in what they themselves produce: and if this rule were generally adopt d the

variety of wines come from one part of the country, as we get from California. Their mental vision sees quite clearly how it is to be naturally expected that we should get one sort of wine on the banks of the Rhinand another very diff rent in Jerez, because those plants are wide apart. And they may even understand how different modes of producing wines may work extreme changes in their character, as in the manufacture of French champagne and of Hungarian Tokai. That different kinds of grapes will yield dissimilar juices, of course, 'goes with. out saying." Yet, with all this, they cannot believe that it is all right that so many sorts of wines come from California, Well, let us see if it is not. In the first place, California is a big country. If you were to scatter European principalities around over it, he who went afterward to gather them up would have to employ a guide to find them. And in that vast expanse of territory you can find pretty much the sort of climate and temperature you may want, provided it is anything like what could be expected of a country adapted to the growing of grapes. Rhineland is no colder, nor is Portugal hotter, than places you can pick out in California and grow grapes in. And as diversified as her climate is her soil, except that everywhere-only in the salt sands margining the ocean, and upon the cloud-kissed, rocky and snow-capped peaks of her mountains-it is fertile beyond the dreams of Nature's bounty. The grape vine grows everywhere luxoriantly; Inot merely three or four, or a balf-dozen kinds of grape vines, but fifty, an hundred kinds, any number you choose to plant. Having all those natural advantages at his command, what is to prevent the intelligent California grower employing any sorts of grapes used for wine-making in any other part of the world, applying any processes in vogue clsewhere, and producing any number of different kinds of wine that he pleasen? That in just what he does do. If he wants a wine that depends for its thavor upon a particular kind of grape, he selects a locality in which that grape flourishes to perfection, cultivates his vines in accordance with the wisdom gained through ages of experience in other lands, where that grape has formerly grown, makes and treats and keeps his wine from it, as should be done, and, after all that, "what's the matter" with his getting the wino he is after? If not an especial grape, but a peculiar process in its treatment is required, such, for instance, as in the making of Tokai, for which the grapes must be left hanging on the vines antil they almost h come raisins before they are pressed. He knows exactly what should be done, and he does it. Not only in the making of champagne are various wines blended, but in some still wines, in order to obtain the volume of one, the bedy of a second, the flavor of a third, and perhaps the color, or fire, the fourth. When that is deemed desirable, where in all the broad world beneath the light of the patient stars can such facilities and advantages for it be found as here in California? Why, if necessary so to do, the freshly pressed mices of the grapes, or the grapes themselves in practically limitless quantities, can be, in four or five hours, massed at a central point from half-a-dozen vineyards in hundred miles apart.

It seems difficult for many persons to

comprehend how it is that such an influte

Realization, of these facts wit readily chabl any a to see how it is that one wine-producing concern is able to offer to- paper in the State.

gether Riesling, claret, sherry, Maderia, port, Burgundy and various other wines, all of its own manufacturer, all perfectly pure, and all so good as to challenge the admiration of critical judges.

It is quite possible that mischief has been done in the past by the ill-advised christening of some California which with high sounding French, German and even Italian names. The plea of those who have done so has been that they merely wished to indicate that the wines so distinguished resembled those after which they were name 1. Even if it was true the moral impression produced was that they were imitations, and consequently open to suspicion. But it was not true. Highly cultivated palates can detect infinite delicacies of flavor that belong to particular wines, and that cannot be imitated. Imagination helps the palate along sometimes, no doubt, and how far this may go the fauciful stories associated with certain famous brands of wine convey an idea.

Thus it is affirmed that one vineyard has never prodoced exactly the same quality of wine since a dividing line was run through it, to make partition of ownership, as it did before; that another always produces better wine in the years when a child is born to its noble owners than at any other times; that the wine from a third looses almost all its distinctiva flavor it poured into a colored glass, etc. Let that all go for what it is worth, which is brobably very little.

Calling a wine Johannesberger or Chambertin does not make it either. California wines are good enough to stand on their own merits. With the progress of timeperfecting methods of cultivation and mannfacture, it is not at all improbable that we may yet have still wines from the l'acific slope as delicate and perfect in all respects as any that the Old World can boast, and when they come along we may be very sore that names of their own will be found for them. Meanwhile, let us be thankful that we have already from California an overwhelming abundance of auperb, pure, healthful, invigorating wine, good enough for anybody and cheap enough for anybody to drink. And let us be content with naming it, in its various kinds, after either the grape from which it is made-as the Riesling, Zinfandel and Muscatel-or a recognized class of wine, such as hock, sherry or port.

The popularization of pure California wine should be a matter of very serious personal interest to all the community of New York, except, perhaps, the 720 persons who voted the "prohibition" ticket in the recent election, and who cannot reasonably be expected to have anything but a theoretical concern about such questions. To those who use vinous, spiritous or fermented beverages, it appeals strongly as off r ing them a drink that is almost as cheap as beer, yet far more pleasant and bouch cial, and infinitely less hurtful than strong liquors. Those who do not habitually drink stimulants of any kind, still con iot scape their share of the common int rest in replacing, to a large degree, the evil intoxicants now gen rally used, by a substitute that will diminish drunkenness, pauperism and crime, an eff of that would inevitably follow upon the popular adoption of pure wine as a beverage instead of strong drinks.

THE MERCHANI is the only vincultural saper in the State.

#### FRENCH NURSERIES.

The description given of French nurseries by Mr. Irving Rouse is interesting. He says that one can scarcely imagine a greater contract than exists between an American and a French nursery. The first thing that strikes an observer in France is the lack of implements considered necessary on this aide of the Atlantic. No cultivators, no harrows, no plaws and no horses to work them with. Not one nurseryman in ten owns a horse, or has any use for one. The ground, as the Irishman said, is ploughed with a spade, is cultivated with a spade, assisted by mattocks, and the stock is dug with a spade. No use there for tree or seedling diggers. It is delivered on the packing yards on wheelbarrows and handcarts, and is taken to the railway station by teams owned or employed by the railway company, and the cost of hauling is considered part of the freight bills. As horses are not used, the ground can all be utilized -no headlands or fence corners left untilled.

The seeds of apple and pear are sprouted in bede after receiving much the same treatment during the winter that we in America give them. After they have made a little growth the young plants are taken up and transplanted about an inch apart each way, in beds about four feet wide. The beds have narrow paths between, just wide enough to stand and walk in. After this transplanting, if the season is dry, the beds are irrigated by means of water from deep wells, raised by windmills or horsepower. The weeds are pulled out, but no cultivation, of course, is possible.

In the plantations of larger stock, the forest and shade trees are usually planted in the same manner, except that each tree is a foot or more apart each way and the paths are left out. Our system of deep coltivation is, of course, not possible—the only thing that can be done is to keep the ground clean by hoeing, and the surface loosened up. The ground is manured heavily and at great expense, the fertilizers being all carried from the compost heap in baskets on the backs of the workmen. some of our people who think they have had a hard time could see women packing out manure at forty cents per day for twelve hours work, they would conclude that there are people worse off than they, and a worse country to live in than the United States. A firstclass workman receives from four to five francs, eighty cents to one dollar per day of twelve hours, and is then competent to take care of a gang of men. The bulk of the workmen receive three francs or sixty cents per day of twelve hours. In the districts near Paris they get rather more, while in the Cologne districts they average but two and a half francs, or fifty cents per day. Land, on the contrary, is exceedingly high--\$1,000 per acre being the average price of some eight or ten concerns near the larger towns. The dearness of land and the cheapness of labor account for the lack of labor-saving machinery, and the cheapness with which stock is produced.

A first-class standard apple in France must have a stem at least six feet without limbs, and are frequently ten and twelve feet high, Cherries and pears are grown in the same way. They are, of necessity, older, rougher and not so bright as our trees. The green moss must, as a rule, be scraped off the bodies before being delivered. The extra age and size makes the price high, the ruling figures being thirty a market.

cents for standard pear, twenty to twentyfive cents for standard apples and twentyfive to thirty ceuts for cherries. The tree agent and dealer is not known in that country, most of the orders coming direct to the nursery. A good deal of stock however, is sold at the fall fairs. The peasants come in from the sarrounding country with a cartload of trees, and the nurserymen say that the peasant seller always has on hand any sort the enstomer may ask for.

The conditions of climate are quite different from ours. The winters are not so cold as ours in the north, nor the summers so hot, tender plants like the Camelia flourishing on the West coast, while one hundred miles inland they cannot be grown at all, indicating a difference equal to that between New York and Georgia. Their climate and soil produce fine trees and fine fruit, and we are indebted to the French people for many of our finest sorts, but neither the Frenchman, nor the Englishman, nor the German, know what it is to use fruit as we use it. In no city in Europe can you buy as great a variety of fine fruits as in New York, and in no country in Europe is fruit within the means of the working classes as is in our country.

#### NATURAL DRYING.

The enormous fruit crops of California, observes the Sutter Farmer, have called into life a great canning industry, which will soon, it it does not already, excel that of any other State in the Union. Fruit is thus rendered imperishable, and can be transported to the furthermost limits of the earth. But while selling our fresh fruits in limited quantities to our nwn cities and to Eastern consumers, we had almost forgotten our drying facilities that could consame the entire product of the interior in the orchards where they are produced, and being thus rendered imperishable and reduced in bulk, can be drawn many miles to transportation lines, and also, like canned fruit, will go to the consumer in every country. It is worth while, then, to look about us and make such discoveries as the merest novice may see for the looking. Our warm, clear, rainless and dewless Summer climate gives to our State fruitdrying facilities enjoyed by no other fruit country on earth. No artificial dryer is needed. No wood, coal, oil or any fuel is required whatever. The fraits need only to be spread to the sun and allowed to remain untouched until dry and ready to be packed for shipment. We talk about the very great advantages of the wheat-growers of the State, but they are not to be compared to those enjoyed by the fruit-grower who dries his fruit. As we contemplate the husiness we can see platforms made of wood or cheap material stretched along between the rows of trees, and the fruit transferred from the trees to be dried, and in from three to five days taken up ready for the market and replaced with another complement. If the climate and consequent improved machinery of California can force the wheat-growers to the wall, the natural California fruit-drier can force all the competitors over the "wall," no matter how cheaply he gets his labor. Men talk about over-production of fruit, with the hundreds of canneries and "all crea tion" as a drier-it is impossible. As to a market, our kinds, varieties, qualities and exclusiveness gives us the whole world for

#### DRIED FRUITS.

A Philadelphia magazine—Table Talk has an intelligent article upon California dried fruits. It says that the specimens of evaporated and canned fruit that have gone East from California give people there a hint of the great pussibilities in this direction. The peaches have been good, though ics have them by the tens of thousands. not so desirable in flavor, in the opinion of our contemporary, as the best Deheware fruit. It is probable that the editor of Table Talk has not had a peach from Placer county yet. What he has seen must have come from some other State. But he says the plums and pranes have been very fine Raisins have been improving, and it is hoped that in time they wilt cound the Malaga fruit. Some specimens of almonds and walnuts have also been very creditable, and our olives and olive oil have been praised very highly.

The article then calls attention to the Dried Fruit Association, which has been organized here for the purpose of raising the standard of quality and values; extend ing the scope of sale and consumption o these California products; diminishing the cost of selling to the lowest point consi tent with good service; regulating shipments to the various markets so as to avoid : surplus in some and a dearth in others. If, says the Philadelphian, the association will honestly carry out the ideas expressed in its eircular, there is no doubt that th advice, suggestions and information which can be given to the fruit-grower, will result in better goods and increased profit-and the fact must never be lost sight of, that unless an industry is on a profitable basis, there need be no hope of its permanent development. But, if the exchange to be established is simply to be another gambling institution, like the Coffee Exchange of New York, where goods are not actually sold and bought by legitimate tradesmen, but where, practically, bets are simply made by outside parties upon future prices, then this association will simply be a curse to the fruit-grower, the dealer and honest people generally. If the exchange, on the other hand, remains entirely in the control of business men and confines all its business to bona fide purchases and sales of goods, it will, no doubt, prove beneficial to

#### RESISTANT GRAPE STOCKS.

The phylloxera feeds alike on all species of grape, says the American Garden. But the European grape has few lateral fibres in comparison with some American species. They give up as soon as attacked, while the Americans send out a number of later fibers, which go on as if the main roots were not attacked. The well-known Clinton grape is one of the easiest to be obtained of all these resistant grapes-resistant not because they escape attack, but because they look on the attack as a mere "flea bite,"

THE State officers of the State Viticultural Commission have organized an exhibit, which will prove as interesting to the general public as it will benefit the wine producer. The policy outlined by the Committee is one which cannot fail to meet with the approbation of everyone connected with this important industry. It is fair to all, and opens a new channel for business, which will undoubtedly lead to most important results in the future.

#### OLIVE PLANTING,

Indications are that a very large acreage of olives with be planted this coming season. In many places we have visited, we have noticed little private nurseries containing from 500 to several thousand trees all ready to plant, and the regular nurser-

We are glad to see this, for there is little doubt of an olive orchard being a profitable one. Great care should be taken to get these orchards on snitable soil, for the clive on an uncongenial soil does not do very well, and is continually disappointing in its

With us here in the Santa Clara valley such a soil as is good for the best wine grapes is also good for olives. They should not be planted on an adube soil to secure the best results. They will grow and they will hear on such a soil, but they are not truly at home in it. So far as we have noticed, the trees hear best when planted on soil that is gravelly and that is well lrained, so that there is no standing water within many feet of the surface.

One must not plant the olive expecting in easy task to care for the tries | Eternal vigilance is the price of clean olive treek, and one might better not plant than to olant and neglect.

We advise in all instances planting thirty to 'hirty-three feet apart, the latter distance probably the hest, and covering the rest of the ground with grape vines eight and onefourth feet apart.

It will be, at least, six years before the olive trees will begin to yield much in the way of a crop, and long before that time the vines will be giving good fair returns tor all the trouble and expense of planting. After six years the olive crop wilt be an item that will continually be growing larger, and at ten years the clive orchard will lead, and perhaps before that time. But for many years a central row or two of grapes will not be in the way, and will help materially.

Olives are just about in the proper condition now to gather for green pickles. They should be riper for the ripe pickles, and still riper for oil, and many orchards will not gather them for that purpose before March or April .- Santa Clara Valley.

EVILS OF EABLY PRUNING, -S. W. Kirkpatrick, a practical orchardist, contributes the following to the Gilroy Gazette on the evils of early pruning: "I would like to say a word of warning to orehardists and vineyardists upon the subject of early pruning. In our mild climate of California we are apt to begin pruning too soon, especially early apricuts-such as Early Moorpark, Royal, etc. These should not be pruned before the 15th of December. Bartlett pears, early peaches and cherries are also subject to the same natural laws. Why is this a correct theory? I speak from personal experience, knowing that in nine cases out of ten early pruning has a very great tendency to produce early blooming on fruit varieties. For this reason, and hy practical observation, I do not approve of pruning too early. Besides, we have had, of late years, spring frosts, that are apt to catch much of our early fruit when in bloom, and this is just what all who are engaged in fruit culture must avoid, if pos sible, as frost to a tree-bloom means certain

#### CHESTNETS IN CALIFORNIA,

In the following article on this valuable ree, R. S. Sneath of San Bruno, says he eli-ves its enlivation is deserving of nuch more attention throughout the states. dition says:

"The Spanish or Sweet chestunut Castinea reson, is a stately and magnificent ree, native of the countries berdering on the Mediterraneau, but also ripening its rnit in shelt red situations as far north a Scotland. It lives very long, attains a arge size, spreading its branch s widely, The largest known chestout tree is the amons Custagaa di ceato cavalli, or the hestnut of 100 horses, on the slopes of dount Etna, a tree which, when measured ver 100 years ago by Count Borch, was ound to have a circumference of 190 feet, The wood of the sweet chestnut is valued y cabinet-makers and coopers, and among luropean timbers it was at one time es eemed second to the oak, which it so losely resembles that in old woodwork the wo timbers are very difficult to distinguish, he trees are very abandant in the south f Europe, and chestnuts bulk largely in he food resources of the poor in Spain, taly, Switzerland and Germany. In Italy he kernels are ground into meal and used or thickening soups, and even for breadnaking.

A. J. Downing, in his "Landscape Garening," says:

"The chestnnt, for its qualities in Landscape Gardening,' ranks with that ing of the forest, the oak. Like that tree, attains an enormous size, and its tonevity in some cases is almost equally reparkable. Large quantities of the fruit re collected in France and Italy, and dried a ovens and stored away for the winter's onsumption. The tree, when young, has smooth stem, clear and bright foliage. nd lively aspect when adorned with the umerous light greenish-yellow blossoms thich project beyond the mass of leaves, raking it a graceful and beautiful tree.

#### CALIFORNIA EXPERIENCE.

About 1870 I planted a few Italian chestuts on my place at Fair Oaks, near Menlo ark, which I hear have been bearing well or the last 12 years, or since I left the lace. Here at San Brono I have a few rees that are 12 years old which have been earing nuts for three or lour years. Last ill I saw two trees at Grass Valley, ievada county, about 20 years old, probbly 15 inches in diameter and 40 feet igh, and said to bear a barrel of nuts to ach tree regularly. These nuts are now elling in San Francisco at 15 cents per ound, and a barrel, if weighing 200 ounda, would bring \$30, and an acre ith 33 trees, about \$1000, or quite as such as for fruit of any kind,

With a large production the price would scede, of course, but, having the world for market, there would be, no doubt, a easonable demand for the note during beir season. Large quantities have been hipped from Italy, which have arrived ere in excellent condition, and there is no eason that I know of to prevent our suplying our own country with them.

Last year I planted a good many nuts long the creeks and washouts on my place ere, but, neglecting to kill off the squirels before planting, they followed my men nd dag up nearly every one.

I then planted them in rows in my nurs-

but little care, even at five or six years of age, by cutting off the taproot to about six luches in length, after the first year's growth. I would take them out of the nurs The "Encyclopedia Britannica," winth ery row then, cut their roots off amouthly, and r turn them to the row, giving them about three feet space in the row. At the age of four or five years I would transplant to the fields.

> The tree would perhaps thrive better to put the seed where you intended the tree to grow, but there would be a loss of the use of the fi ld for a few years more, and a greater cost for protection and cultivation.

> There are many hill-id s in California that are too steep and broken to cultivate with plows that would be as valuable for chestnut trees as more level land. By planting clos ly, and then thinning them out from time to time, there would be morprofit, perhaps, than in giving them the space they would eventually r quire.

Animal- all live the nut, I believe, and if he nots should not pay, to gather a few ares of ground in the shape of a wood lot, rould make a grand place to fatten hogs very fall.

In good, rich, moist soil, I believe, trees could be brought to bearing within four or five years, and if alternated with peach trees would require all the ground when the latter had ontlived their usefulness. By planting seed very thickly, a crop of hop poles and poles for barrel hoops could be taken off annually, as the stumps sprout vigorou-ly after the tree has been cut down

I expect to utilize the waste places on my farm by setting chestnuts out whenever I can, and where cattle would not disturb them. They are well calculated for roadway trees, clusters to protect cattle and a woodland, or rough, rocky, waste places, as well as for landscape purposes. The tree being deciduous, it is not objectionable, like evergreen trees, which prevent the sun from drying up the roadway in the winter season. Neither are the roots objectionable, like the gum tree, in impoverishing the soil about them. The only objection I have noticed in the chestnut was that it produces quite a litter of leaves, shells and burrs on the approach of frosty weather. This evil is not unmixed, however, as this same material will fertilize and mulch the trees and thus improve the soil constantly.

The chestnut will do well along the coast in the warm valleys, and to perhaps 4,000 feet elevation, and from San Diego to Puget Sound, no doubt. The growth is not as rapid quite as the gum tree, but more so than almost any other tree grown here, except, perhaps, the poplar. The wood is valuable for many purposes, and especially for lence-posts and fencing lumber; also, house frames and inside finishing, cooperage, and perhaps chestunt is next to redwood for railroad ties.

There is less difficulty, perhaps, in planting the nut successfully than that of any other tree seed, as the unt is large, and if sound and fresh will grow well if a hole is simply punched into the ground with a stick three or four inches deep in loose ground, and less if in hard ground.

California chestnuts that are quite fresh can now be had at almost any place where nuts are kept, and later on Italian chestnuts will be in market, so there will be no excuse for any one to neglect planting a few unts, as an experiment if nothing more. ty, and now have a considerable number. They will do better by cultivation, but very with \$6 in summer and \$5 in winter. At

they can be transplanted safely, and with the chestnut much more attention than it pluc a day. Nine, by the month, asked has received heretofore on this coast.

#### FRUIT BRANDA LEGISLATION

An Act entitled "An Act to provide for warehousing fruit branly, " October 15, 1888, reads as follows

" Be it enacted by the S ofe a d Ho we of Representatives of the United States of Averica in Congress assembled, That the provisions of an act entitled 'An act relating to the production of fruit brandy, and to punish frauds connected with the same, approved March third, eighteen hundred and seventy-seven, be extended and made applicable to brandy distilled from apples or peaches, or from any other fruit the brandy distilled from which is not now required or hereafter shall not be required to be deposited in a distillery warehouse: Provided, That each of the warhouses established under said act, or which may hereafter be established, shall be in charge either of the storekeeper or of a storekeeper and gauger, at the discretion of the Commissioner of Internal Revenue.

For the purpose of carrying into effect the pravisions of this act, the Regulations issued under the said Act of March 3, 1577, contained in Series 7, No. 5, and Supplements Nos. 1 and 2 thereto, are hereby extended and made applicable as well to brandy distilled from apples or peaches as to brandy distilled from grapes.

Special bonded warehouses may, there, fore, now be established under and in strict compliance with said regulations for the storage of brandy distilled from apples, peaches, or grapes exclusively; and the brandy distilled from those fruits may be removed in bond from the distilleries and deposited in such warhouses, when established and be removed from one warehouse to another, or for exportation, in the manner and under the conditions prescribed in said regulations.

Jos. S. MILLER, Commissioner. Approved November 5, 1888

HUGH S. THOMPSON, Acting Secretary of the Treasury.

#### WAGES IN 1800.

The condition of the wage class of that day as detailed in McMaster's History, may be well examined; it is full of instruction for social agitators. In the great cities anskilled workmen were hired by the day, bought their own food and found their own lodgings. But in the country, on the farms, or wherever a hand was employed on some public works, they were fed and lodged by the employer, and given a few d llars month. On the Pennsylvania canals the diggers ate the coarsest diet, were housed in the rodest sheds and paid \$6 a month from May to November, and \$5 a month from November to May. Hod carriers and mortar mixers, diggers and choppers, who, from 17.9 to 1500, labored on the public buildings and cut the streets and avenueof Washington City, received \$70 a year, or, if they wished, \$60 for all the work they could perform from March 1 to December 2). The hours of wirk were invariably from sunrise to sunset. Wages at Albany and New York were 3 shillings, or as money then went, 4) conts a day, at Lancaster, \$5 to \$10 a month; elsewhere in l'ennsylvania workmen were content

to transplant when old enough. I find that well without it, and all in all I claim for Baltimore men were glad to be hired at 18 more than \$6. At Fredericksburg the price of labor was from \$5 to \$7. In Virginia, white men employed by the year were given £16 currency, slaves, whan hired, were clothed and their masters paid £1 a month. A pound Virginia money was, in Fed ral money, \$3.33. The averag rate of wages the land over was, theref re, \$65 a year, with food, and perhaps lodging. Out of this small sum the workman must, with his wife's help, maintain

#### OLIVE CULTURE.

George F. Hopper of Sobre Vista, Sonoma vall y in a letter to a contemporary gives his experi nce with the Mission and Picholine varieties of olives, which, in view of the interest now being taken in all that pertains to this valuable tree, is worthy of re-

In 1850 I bought from Mr. West of Stockton fifty Picholine olive trees. These were planted on the hi Iside in good, rich, loamy soil and have been well cultivated each year. This is the first year that any of them have borne fruit-a few trees having a few olives on them, and the berries are small. In land adj.ining this I planted in 1875 or 1876 about a hundred Mission olive cuttings. The growth of these has been very fine, and the trees have been bearing for the last eight years, the crop being heavier each year. They are free from all pests except a little of the black scale, which made its appearance some two years ago; was soon overcome by an application of a wash of concentrated lye, whale oil soap and sulphur, applied at 130 degrees Fahrenheit in July. The following October we gave the trees a washing of salsoda and water at the same temperature. The trees are planted twenty-four feet apart. The Mission trees planted in 1875 are from ten to twelve inches in diameter, and the Picholine plant.d in 1850, the largest, are about four inches in diameter.

#### POOR SPANISH RAISINS.

The Merchant's Mail says: The quality of Valencia raisins offered the trade lately has been anything but satisfactory. Many a grocer whose chief aim is to furnish good goods to his trade has already found this fact out, and others will later on.

A large portion of the crop this season has been sen usly injured by rain, and in very many instances the first was not fit for consumption. The Spanish packers, disregarding the unfitness of many of the crops, have packed them in boxes, and those boxes are now in this country. They have, in order to deceive the buyer, placed gool fruit on the top and the poor below, so that the grocer who looks on the top only, feels he is getting the same grade all through the box, and only discovers his mistake when he begins to retail them.

Some of the trade that has discovered the trick of the Spanish traders offset it, so to sp ak, by ffering the goods at a low rice in order to get rid of them. The retail r. h wever, who wants his customers to have good goods, dies not want these raisins at any price. The grocer who doesn't care what kind his customers get, wants them to be sure that he is not paying fall price for them.

Subscribe for the MERCHANT.

#### TREATMENT OF BLACK ROT.

In a report made to the French Minister of Agriculture on experimental tests in the trentment of the disease of the vine which has long been known in America as "Black Rot, " M. Prillienx says:

It has unfortunately established itself in France and is continually aprending. "We hoped for two years after its discovery in 1885 over a very limited area in the elevated valley of Hergult, that it would remain within these narrow bounds, but as early as last year I observed several new centres of the discuse which were scattered here and there through the valley of Garonne, between Agen and Aiguillon, in the elevated valley of Lot, beginning at Figeac and also in that of the Tarn near Millan and of Affrique.

This year it has been observed near the fine vineyard of Aigues-Morte by the side of Lunel, and in Gironde at Cerons not far from Sauternes. This very morning I have discovered the existence of a new centre of infection in Charente, a region hitherto free from the disease, having received specimens showing the positive characteristics of Black Rot upon grapes and leaves from Chazelles.

If one has witnessed the terrible losses caused by Black Rot and seen how rapidly it destroys an abundant crop, he cannot refrain from having grave fears for the future, although for the present the disease is confined to a few isolated points.

In the reports which I had the honor of addressing to the Minister of last year-after having visited the vineyards where the Biack Rot had appeared-I drew special attention to the early date of the attacks of the disease upon the leaves. From the lenves the spores are scattered upon and infect the berries and with this in view, I expressed a wish that the experiments of treatment might be commenced in good senson and fellowed out with care and patience.

A small infected area situated at Aiguillen in Garonne at the mouth of the Lot and badly diseased since I885, seemed to me to be particularly adapted for use as an experimental field for trying the remedies.

M. Despeyroux, the proprieter of the vineyard, consented to give his assistance to all the experiments I wished to undertake, M. Lavergne pharmacist at Aiguillon, offered to undertake the personal supervision of all experiments which I should indicate to him. You yourself were willing to grant to me (under conditions which should be exactly determined ) the necessary funda to ensure the testing of the trial remedica for Black Rot.

In the full of 1887, while the herries that had been dried up by Rlack Rot were still banging to the vines, I asked M. Lavergne to take the first steps in the plun which I had adopted for M. Desperoux's vineyard. by enrefully marking all the diseased vines. After obtaining these exact data I could organize the plan of my experimenta for the following spring.

The part of the vineyard reserved for the test comprised eleven successive rows each containing fifty vines.

Three rows (6, 7, & 8) traversing the midst of the infected area were reserved as Row 10-78 per cent, healthy, -22 per a check lot and not treated.

The three following rews (9, 10, & 11) were treated with Bordeaux mixture. In the first two treatments ( May 22d and June 23d), the mixture was made with different degrees of atrength for each row; for the first (row 9), 15 lba, aulphate of copper, 30

second (row 10), 13 lbs, sulphate of copper, 13 lbs, of lime; for the third (row 11), 6 lbs, sulphate of copper, 4 lbs. line. In the two last treatments made July 2d and 19th, the strength of the mixtures was the same for each row,-13 lbs. sulphate of copper and 13 lbs. lime to 22 gallons of water.

The three rows situated on the other side of the cheek rows were also treated, the first two (3 and 4) by enu celeste, containing 2 per cent, of sulphinto of copper for the first two treatments, and 3 per cent. for the last

Finally, upon the last two rows (12 & 13) in the plot, different powders w re applied; for the first two treatments, cupric stentite, carrere pewder, and a mixture of 1-10th sulphate of copper and 9.10ths triturated sulphur; and Bordeaux mixture, composed of 13 lbs, sulphate of copper and 13 lbs, lime, for the last two treatments.

Black Rot spots on the leaves were distinctily seen Jane 8th, but only on the untreated rows. Under the influence of a moist environment, the disease progressed in spite of the first treatment and by June 18th, the leaves were everywhere uttacked, but in very different degrees. In the check rows scarcely a leaf was intact, in the treated rows, especially those treated with Bordeaux mixture, the diseased spots were very rare.

The applications were repeated on several occasions.

The first attack on the grapes occurred July 12th, when some of the berries on the untreated vines showed the disease. July 13th, the three check lots were everywhere attacked and the disease had invaded some clusters in the treated portions. Under the influence of constant moisture and a somewhat warm temperature the disease made terrible progress. By the 16th, the erep on all the untrented vines was lost, but the treated vines, especially those having received the Bordeaux mixture, were resistant. Another application was made July 19th. At this date the diseased berries which up to this time had been reddish brown, because covered with fruiting pustnles of the parasite and assumed the black color and wrinkled appearance that is so characteristic of the disense.

M. Lavergue carried the entire experiment through with a painstaking precision in all its details. The number of healthy and more or less diseased berries was exactly noted for each of the 500 vines. I shall nt a later time have the honor of presenting a full account of my researches, but I wish to acquaint you without delay with some of the more atriking features which were apparent on the examination of July 25th,

In the three rows of untrented vines the fruit was completely destroyed, as is shown by the following figures:

Row 6 (check) -10 per cent. healthy, -90 per cent, diseased.

Row 7 (check)-2 per cent, healthy,-98 per cent, diseased.

Row 8 (check)-0.23 per cent, healthy,-99,77 per ceut, diseased,

The centrast with the fellowing rews treated by Bordeaux mixture is very strik-

Row 8-96 per cent. healthy,-14 per cent. disensed.

cent. diseased.

Row II -75 per cent. healthy, -25 per cent. diseased.

The treatment with can celeste was efficacious, but in less degree; in the third row, where the best results were produced, there portion is 25 per cent, of the healthy, to 75 per cent, of the diseased, but it should be mentioned that this row was budly attacked by the Anthracnose and its ravages may have been partially unfounded with these of Black Rot.

The simple solution (two or three per cent, solution of sulphate of copper) gave only very moderate results, the proportion being fifteen healthy to eighty-five diseased berries. The powders also gave very little satisfaction since they were subjected to in-

In a future report I shall have the honor of presenting and discussing the numerous data furnished by this experiment. It demonstrates with perfect certainty the fact, long suspected bat not positively established either in France or America, where the disease has ravaged the vineyards for several years, that Black Rot as well as Mildew may be arrested by copper treatments if the applications are made at the proper time and in the right manner,

The success of the experimental treatment at Aignillon in a year when the atmospheric conditions were so exceptionally favorable to the disease, as is shown by the total destruction of the crop on the nntreated vines, is a certain assurance of future success, and we are safe in concluding that we may combat Black Rot by the same menns that we do Oidiam and Mildew.

#### FREE FRUIT BRANDY.

The annual report of the Commissioner of Internal Revenue, for the fiscal year ending June 20, 1888, has just been issued in complete form. In dealing with the proposed reduction of the revenue by this removal of tax from fruit brandy, the Commissioner says:

"It may be observed, in reference to the proposition frequently made to remove the tax from brandy distilled from fruit, that it appears to be probable that the relief of this article from taxation would lead to the utilization of a large number of different fruits for the distillation of spirits, and to the production of an additional volume of such spirits, which might reasonably be expected to have an appreciable effect upon the tax-paid grain and molasses spirits with which it would come into competition. Under the present law, which practically confines the brandy producer to the use of apples, penches or grapes, and despite the endenver to exercise as close a supervision as it has been found practicable to apply to a business carried on by ac many individuals and senttered over so large an area, it is supposed that a considerable percentage of the product escapea tax; and even this amount is the subject of complaint from the distillers of whiskies, who declare that it is perceptibly felt in some places.

" If, then, in addition to this fraudulent quantity, the whole legitimate product of fruit brandy should be put upon the market tax free, and this should again be awollen by the unrestricted use, not only of apples, penches and grapea, but of any and all other fruits, under the inducement offered of competition with whisky and rum loaded with a tax of 90 cents a gallon, I believe that the grievance to the whisky producers would prove not to be an imaginary one. A large quantity of free fruit brandy would surely be marketed in localities where the smaller grain distilleries are mainly situated, and could not fail to seriously affect the business of the latter. For instance, durfirst (row 9), 15 lba, sulphate of copper, 30 were 42 per cent. healthy and 58 per cent. ling the last fiscal year there were operated ence of an expert, as its proper I lbs. lime, to 22 gallous of water; for the diseased grapes. In the next row, the proing the last fiscal year there were operated

spirit-producing capacity net exceeding 30 gallons. Of these, an average of not far from 350 was in operation each mouth. In the same collection districts there were operated, at various times during the fruit season, 2065 fruit distilleries. In good fruit seasona twice this number of fruit distilleries are not infrequently operated.

"If all restriction and limitation were removed from fruit distillation, and the stimulant of large profits added, the dispropertion in numbers between these fruit and grain distilleries, and the product of the former, must speedily increase. The circumstances would offer to the small grain distillers the strongest temptation to meet the free fruit spirits with illicit grain spirits, just so far as might be found posaible.

"The reduction in the revenue by the abolition of the tax upon fruit brandy is not, therefore, I consider, to be mensured by the auttraction of the present collections frem that source.

"A considerably larger amoant would, in all probability, he lost, while mischief to the revenue service, and increased difficulties in the enforcement of the law as te grain and melasses apirits, out of all proportion to the amonat of tax aurrendered, must be seriously apprehended."

#### THE HOME OF THE HOP.

Puyallap valley, the center of the hop industry of Washington Territory, says the Scientific American, has recently completed the harvesting of an enormous crop and its farmers are congratulating themselves on the price obtained-twenty-two cents per pound. The total cost, baled and delivered at the railroad, was nine cents and the yield exceeded one ton to the acre. The climate and soil of the Territory and of this particular valley, is so well adapted to the growth of the plant, and its freedom from the pests of lice, mildew, and other drawbacks experienced elsewhere, is here so uniformly complete, that a maximum annual yield can be depended upon with the same certainty as the summer's sun, The only "glorious uncertainty" about it is the market price. As this fluctuates from five to one hundred and twenty-five cents per pound, according to the supply and demand, the business is truly exciting.

An extensive grower, with hops at five cents per pound, finds himself unable to meet his liabilities, while the following year the same hop yard may pay a profit of \$1,800 per acre if marketed at one dollar per pound.

As the land cleared of timber and planted with vines, in rows seven feet apart and properly pooled, costs \$300 per acre, to which must be added a kiln or oven for drying and other paraphernalia, a man of amall means can only commence on an extremely small acale.

The picking, which constitutes one-hulf of the expense of raising, is done by hand and must be paid for in each every night. It fornishes light and agreeable employment for men, women, children, Indians and Chinese. The two latter excel the whites in rapidity and thoroughness. One dollar per box holding ten bushels is paid for gathering, and nimble fingers are neceasnry to fill two boxes per day.

The drying of the herb in the ovens is a delicate operation, requiring the experience of an expert, as its proper perfor-

#### LONDON'S WINE VALLES

The following interesting description of be dispositions of choice liquors in the British metropolis, is extracted from a reent issue of Tid Bits:

The total floor area at the vaults of the ondon docks is a million sup rficial feet. nd in this space, 83,000 pipes of wine can usily be stored, and then room found for 5,000 casks of brandy. The various aults are built in the form of a crypt. he largest of this -- the east vault cov es four acres of ground, and as we take or light, a small oil lamp fix d to the end I a piece of wood some eighteen inches ing, our guide informs us that there ar this cellar alone, twenty-one miles of cantling wire, or miniature railway lines. ver which the barrels are rolled.

The roof for yards and yards is covered ith a beautiful species of fungus, th rowth of which is due to the fune's of the ine, a psculiarity which is all the more nticeable, as where no barrels find a tem orary resting place, no fungus grows about t is as light as feathers, and tak s the post elaborate and artistic forms Sund illocks, gigantic bunches of grapes, long opes which a puff of the breath will snap i two, while such delicate d signs are to e found here as to make the lover of lacavy the patterns. In the midst of all this. iushrooms grow, and in the season a good rop is always secur d.

"The Drawing Room" covers nearly an ere. This is a private vault, scrupulously lean, the sawdast curpet unspotted. It rented from the company by a well nown firm of wine merchants, and as we xamine a cask called "The Duke," we earn how testing is managed. The bong f a barrel is never removed for testing urposes, but the attendant has to bore a mall hole in the cask, and the wine flows ato the "d ck" glass. The taster having atisfied himself as to strength, the flow is topped by the insertion of a small stick of rood. Every hole has to be accounted for and the total must correspond with the number of "tasting orders" issued from he owner's office. Sometimes a whole parrel runs away in tasting.

The brandy cellar covers about seven eres of ground and some 21,000 casks are esting there just now; but during the ranco-German war the authorities conrived to provide accommodation for 72,000 asks. All the brandy was driven out of rance; its value was \$15,000,000, and an fficial who helped to receive the barrels t the time, has made the interesting calplation that if they had been placed in a me they would have stretched for thirtyour miles. There are casks of brandy ere-profusely decorated with cobwebsver twenty years old. One of the gangrays is nearly a quarter of a mile long, ud in the midst of this huge cellar runs he snow tank, into which all the sluice, now and mad of winter is poured.

The "vatting floor," where brandy is mproved by mixing one quality with auther, contains some of the largest spirit eceptacles in the world, gigantic yellow nbs aymmetrically made, on each of which painted its holding capabilities. Here is na which requires 10,000 gallons of liquor o fill it, another takes 3,000, others 2,410, ,450, 1,500 and 530, something like a housand gallons of brandy running through he taps every day.

The mixing process has ceased at the noment of our visit, but it is whispered nat in another corner of the dock a large

into "sweetened.," The "sweetening" barrel, holding the modest quantity of 5,070 gallons-into which the gin in its nusweetened state is to be poured-is on one floor. Above it, immediately over its hoge mouth is an opening some yards in length, and ton melies deep by nine inches wide, and iuto this a rivulet of gin is flowing from the interior of five large casks which are emptying themselves into the barrel below, As soon as these are empty, others take their place, and the "vat" filled, the sugar in a liquid state is added, the whole mixed together, and shortly afterward it is bottled, sent abroad and approved of as the choicest Cream of the Valley,

A word about the bottling department. As fast as the wine is put into bottle it goes ont for export, the number of dozens scaled, labeled, capsul d and packed in cases every lay, being 100. A good packer can case a hundr d doz-n bottles between 8 and 11 delock in the morning. In the cellar beow the bottling room-where, by-the-bye, in d z n bottles can be placed side by ile on the door-the barrels are kept, and dthough the cellar is lighted with gas, ifty-four lamps are needed for dark days, nine of these being "Davy's." Here in me corner are the wax pans, the merchants not only having to provide their own bottles' and labels, but wax into the bargain. It takes five minutes to melt a pan of wax, It is placed in a copper pan, heated over a gas stove, and when melted is placed in a

quantity of gin is about to be converted receptacle containing a small spirit lamp, which keeps the wax in a liquid state, and finally the case is locked.

#### SIXTY MILES TO THE MOON.

The following is from the Boston Herald of recent date, and is headed, " Bragging to Some Purpose:" "When some ten or twelve years ago, the Lick Observatory of California ordered of Mr. Alvan Clark, of Cambridge, Mass., a thirty-four-inch object glass for a telescope, the size seemed so preposterous that, taken in connection with the rather ominous name of the donor of the fonds, it looked like a fair and square notice to the universe that California intended to lick the whole astronomical world, Washington, Greenwich, Paris and St. Petersburg included. What was more to the purpose, she actually did it. A glass of such power was constructed as to bring the moon within 200 miles of Sau Fraucisco, and so to furnish its citizens with a lunar line immeasurably shorter than could be boasted by any rival city. One would think that that were laurels enough for a State scarcely forty years old. But no, the glorious spirit of brug, finely developed as it muy be on the Atlantic coast, swells to sublimer proportions when it catches sight of the immeasurable Pacific. Everything in California has to be on the scale of the Pacific. The trees must be 400 feet high, and potatoes four to the bushel. Why not equally, observatories. For some time,

therefore, ardent spirits in the State have been chafing over the idea of having the moon as much as 200 miles away. It has been making them feel so lonely that at last the discontent has found vent on a pecuniary scale so immense that the University of Southern California has been empowered to order of Mr. Clark a fortytwo inch lens, that will bring the moon within a distance of sixty miles, and so serve Mr. Lick himself with the same sauce with which he served the rest of the world. With five years to do it ln, and \$100,000 to oil the way, Mr. Clurk says he can accomplish the

#### VITALITY OF SEEDS.

A horticultural authority lells us that seeds will germinate as freely the second year as the first. The length of time for which sads can be relied on varies considerably, according to the conditions under which they are kept. A cool, moderately dry place is the best for the preservation of seeds; moisture and varying temperature are detrimental. Beans, pears, pepper, earrot, corn, egg-plant, okra, salsify, thyme, sage and rhubarb are safs for two years; asparagus, endive, lettuce, parsley, spinach, radish, are safe for three years; eroccoli, cauliflower, cabbage, celery, turnip are safe for four or five years; beet, cucumber, melon, pumpkin, squash and tomato seeds will grow when six or ten years old.

#### EAST BOUND THROUGH FREIGHT. Forwarded by the Southern Pacific Co., November, 1888. IN POUNDS.

FORWARDED FROM SACRAMENTO. SAN JOSE. ARTICLES. SAN FRANCISCO OAKLAND. Los ANGELES. COLTON. STOCKTON. MARYAVELER 703.940 1.587.170 42,030 6,552,060 1.065.360 366.500 168,010 51,430 1,695,850 131,410 33,650 7,130 26,030 68,310 64,900 31,050 211,000 845,260 ligars.... Hothing, California Manufactured 1,180 Office, Green...... Dry Goods Empty Packages Empty Packages Fruit, Uried. " Green Decidnous. 43,350 20,000 22.590 206,990 119,780 369,360 980 Fuse.
Fuse.
Hides and Felts.
Hair.
Hardware.
Hides.
Honey.
Hopes. 13,290 279,160 81,400 64,600 65,580 359,360 242,270 Horses.
Leather...
Scrap
Lumber
Miscellaneous...
Malt 20,000 154,450 37,180 13.120 28.760 143,990 271,060 3,740 53,060 22,780 36.050 165,260 8,870 dt... rchandise, Asiatic (in bond)... hair ohair ustard Seed..... 53,600 flustan over the control of the cont 22,150 43,450 66.830 39,350 27,680 20,000 771,070 318,510 1,987,710 191,890 Salmon, Canned.
" Pickled. 39,720 223,620 424,640 33,470 18,310 2,572,910 828,180 60,810 182,990 2,058,020 182,290 2,66,350 34,070 502,980 27,510 31,540 Seed...... Shingles. ... Silk Goods . . . Skins and Furs l'egetables. Whalebone. 20 (20) 524.150 7,350 33,500 30.440 10.560 5.530 Wine Wool, Australian. 9.500 21,580 185,430 " Grease ...
" Fulled ....
" Scoured ....
Woolen tenods ... 974,000 5,430,130 P 337 410 466,830 16,050,700 2,621,600 34,380

### Recapitulation.

10,050,700

Oakland. 1,220,090

2,029,000

5 430 130

San Jose, Stockton 9,337,490 34,380

Marveville.

Colton.

Grand Total



ISSUED FORTNIGHTLY ON FRIDAY MORNING BY

E. C. Huones & Co., - - Proprietors. Office, 511 Sansome street ..... Postoffice Dox, 2366

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### FRIDAY..... DECEMBER 21, 1888

TREER SEEMS to be a revival of confidence in the future of our vineyards, and there is now more talk of planting additional acreage in vineyards than of rooting up those already planted on account of a few set backs, which are confined to the wine industry alone. The market for our wines is yearly becoming larger, as they become known, and each season brings with it improvement in quality the result of increased experience. We are gradually passing beyond the experimental stages, and the future is bright with the promise that California must eventually lead as the wine producing country of the world. Estimates of the supply of wine two years old and upward are small, with all stocks being rapidly reduced. This strengthens the opin-

The plan adopted of drying the surplus crop has worked satisfactorily, and while benefitting the wine makers by limiting the output, it has enabled the grower to realize a fair profit on his crop.

The raisin season has proved highly remunerative to the producers. The crop has been large, but even then insufficient to supply the Eastern demand. From Fresno alone the shipments amount to 450,000 boxes, or 9,000,000 pounds, and the crops from other sections of the state will be fully as much more.

THE AGRICULTURAL Department at Washington has appointed G. P. Rixford, of this city, to make up a collection representative of the fig industry of California for the Paris Exposition. It is desirable to make the exhibit as complete as possible, and with that view, choice samples of dried figs of all varieties grown in the State, as well es crystallized, pickled and preserved figs of all kinds, are wanted. Parties able and willing to contribute to this display should pack the fruit in the most attractive style and forward by express to G. P. Rixford, care of the State Viticultural Commission, where express charges will be paid. As the time in which the collection must be made up is short, it is hoped contributors will be prompt. Further particulars can be obtained by addressing G. P. Rixford, 528 California street, this city.

A NEW ORDINANCE, adopted by the Board of Aldermen of New York, requiring hereafter that all vegetables, fruits and berries shall be sold by weight, and that the weight or contents of every package be plainly warked on the ontside, will interest California shippers, especially Section 3, which is as follows:

" Every barrel, bag, box and basket and crate of vegetables, fruit and berries offered or exposed for sale, or sold in any of the public markets of the City of New York, or within the limits the reof, or in any of the public streets in said city, in any other way than provided for in previous sections, shall be labeled, stamped or marked outside thereof, in plain letters and numerals of an inch in size, with the equal and correct measurement or weight of the contents thereof."

The ordinance must receive the approval of the Mayor or be passed over his veto before it becomes a law.

Some GRAPE-GROWERS in the Housstonic Valley. Connecticut, have had the leaves of their vines eaten on the under side, and in order, like soldiers-each leaf being wholly eaten before another is attacked. insect is the American process, or procession meth. Procris Americana Harris. It is a small moth, and usually is not seriously injurions in vineyards. In the small quantities in which it unually occurs, it is best destroyed by cutting and burning the leaves on which it appears. Should the insect become numerous, it would be well to apply pyrethrum powder or an emulsion of kerosene oil. It would be dangerous to apply Paris green or London purple at the season at which this pest appears.

AN EXCHANGE, which devotes considerable time and labor to the completion of crop statistics, has computed the value of California products, for 1889, at the magnificent totals of \$350,000,000. The wine erop ion that better prices will rule this coming is estimated at 30,000,000 gallons, worth, when fully prepared for the market, at least ten millions of dollars. The new invention, that of ageing wines by electrity, will, it is further claimed, give this State an important advantage. The fruit crop is valued at eighteen millions. These flattering prospects are based upon the abundant rains that have fallen during the past two

> AT THE Berlin exhibition of Portuguese wines, 150 casks and 2000 boxes have arrived from the Douro; the dessert wines, especially the Muscatels, are pronounced magnificent; the German palate does not take to the table wines so easily, being accustomed to Bordeaux. What have struck the Germans most are tho long necks of Portuguese white wine bottles. These seem to meet with universal approbation because they are so handy in ponring ont wine across the table. Some of the table wines are found suitable, others too fiery. The task of the jury is not going to be an easy one, there being 1000 different sorts represented by 60,000 bottles.

> Some extensive tracts of land in various parts of the State, have been donated to the State Board of Forestry, on condition that stations for experimental purposes shall be established by the Board throughout the State. It is probable that the Board will at once enter upon the desired work, and a number of plants, shrubs, etc., are now ready for transplantation.

The Floards orange crop is estimated at 3,000,000 boxes, more than double the product of any previous year. Each box holds on an average 150 oranges, which will be a ton for every person in the United States. In commenting upon this increased production, the St. Louis Globe-Democrat aays this is true of California as well as Florida. The enormous consumption of oranges is tallied by the equally increased consumption of grapes and berries.

THE NUMBER of inquiries which have come to us from the East and abroad concerning the Frazier process, since the publication of a descriptive article in THE MERCHANT, show to good advantage the value of the paper as an advertising medium. THE MERCHANT is read by vinc-growers and wine-makers in all parts of the world, and its rapidly-increasing circulation is the most satisfactory proof that its efforts, on behalf of the viticultural industry of California, are fully appreciated.

THE DUTY on Italian wines in France is 20 francs per hectolitre. In order to enable Italian Wine Merchants to export domestic wines to that country, the Government allows them a drawback of 12,85 francs on all wines having an alcoholic strength of 159°, and gets the railroads to reduce the freights sufficiently to overcome the differ-

JULIUS DRESSEL, of Sonoma, is back from his trip to Germany. When he went, he took samples of white wine with him, and, according to German experts, they are worth from 75 cents to \$1.25 a gallon, the latter, for ordinary Riesling. Resistant vines are not the favorites in Germany that they are in France.

A NEW DISEASE has broken out among the grapevines of Santa Ana and San Gabriel valleys of California. It is termed the sapsour, and the cause of it no one knows. The vines begin to wither and in a short time die. The disease is infections and spreads very rapidly.

THE STATE Board of Horticulture is about to publish a valuable pamphlet on olives, which will be ready for distribution in a few days. It is compiled by Secretary Long, and is finely illustrated with woodcuts. It is the first treatise on olives ever published by this department.

WHEN HAMBURG recently entered the Custom's Union, it was found that there were in that city not less than 110 wholesale wine merchants, without counting the Spanish and Hungarian bodegas, showing an increase in their unmber of 40 per cent. the last three years.

H. W. CRABB, for the producers; I. Landsberger, for the brokers, and Arpad Haraszthy, for the dealers, are now engaged in perfecting the details of the disposal of wine in the new Exchange.

Mr. Paraott has 5000 olive trees set out on his place in Napa county. In a few years he will have one of the handsomest and most valuable homes to be found in

The grape season is not over yet in California. In the neighborhood of Silma green grapes can still be found on the vines, and another crop is expected after the New Year.

#### KATE PIELD'S MISSION

Kate Field, who is "preaching the gospe of the grape" in the East, has sent a letterl to the Viticultural Commissioners, in which she says that she will probably lecture before the Nineteenth Century Club, of New York, if arrangements can be made. Before she applied, the club's list of lecturers was full, but it is believed that provision can be made for her.

She has had quite good success in advancing the use of wine as a substitute for distilled liquors. The various prohibition editors have addressed questions to her for replies, which they will get. One of the most favorable letters yet received is that of Howard Crosby, a New York preacher. It is as follows:

116 EAST NINETEENTH STREET, 1

NEW YORK, Dec. 9, 1888. }
DEAR MISS FIELD:—I believe the cultivation of the grape and the manufacture of pure native wine in our country would prove the best practical measure toward true temperance. The principal reason why temperance measures have failed with us is that the common sense and common conscience will not allow the indiscriminate condemnstion of all drinks that contain alcohol. The distinction that actually exists between fermented and distilled liquors must be regarded in all temperance measures that will prove successful. If cheap ustive wines could take the place of distilled liquor as a beverage, the cause of temperance would mark its greatest advance. I trust the day will come when this will be achieved.

Yours, very trnly, HOWARD CROSEV.

#### THE NEW VINE DISEASE,

EDITOR MERCHANT: The grape-root disease in some Los Angeles vineyards is called the grape-root mold in Europe.

It is no doubt a sap disease or caused by diseased sap. The roots and vines should be most carefully destroyed by fire. Its cause is not definitely known. The only cure known is the thorough uprooting of all infected vines, as well as a double circle of inaffected vines, to starve the disease, as the mold spores reach out through the ground for fresh nourishment. (The mold is generated between the two barks.) A term of six to eight years is requisite to accomplish this. Yours,

M. DENICKE

Fresno, December 13, 1888.

A NEW SEEDLESS GRAPE, -- An Eastern viticultoral paper reports the propagating of a new seedless grape, by a Satter county grape-grower, and is declared to he superior to the seedless Sultana or any other seedless variety cultivated in California, William Thompson, of Sutter county, originated the variety from the fruit of some cuttings he obtained from a nursery in Syracuse, N. Y., and from some comparatively young vines a yield of sixty pounds each has been obtained. The grape has been named the Thompson Seedless.

An Eastern Exchange says, the commissioner of agriculture at Washington, D. C., is now purchasing cocoons of the crop of 1888. Persons having any for sale should communicate with him at once and obtain a circular relating to the terms of purchase. If you have not yet applied for silk worm eggs for 1889, do so at once so that your application may not arrive too

#### GRAFTING TO MUSCATS

EDITOR MERCHANT:- I was much pleased with the late article in your columns, entitled "Grafting to Muscats," From it, I gleaned a great deal of valuable information, and have no doubt many others did the same. It is just such articles that are especially valuable to the beginner, hecause they contain a description of the experience of many, in different sections from which one can draw his own conclusions.

I had intended grafting many of my vines to more desirable varieties next spring, and previous to seeing the article, saticipated the job with many misgivings, now, however, I feel assured of snecess. To the end that some one may gain a point or two I will give a little of my experience. Owing to the position of our section; (Colfax) being the most easterly point in California at which grapes can be raised and immediately on the line of the C. P. R. R., which gives as direct communication with the markets of the Eastern States, the most of us have planted our rineyards to Table Grapes and so far see no reason to regret it, though had we snown more would have left out many of he varieties we planted.

An analysis of prices for California Grapes in the Eastern market during the onat senson demonstrates the fact that the hipping qualities of a Grape are of the irst importance. Next its appearance, rhich includes size and color. Flavor omes third and seems to be of the least mportance, though I think this may possily change in the future.

The Grape that seems to combine these onditions to the greatest extent so far is he Flame Tokay which in this locality hough ripening a little late is finer colored, ad more beautiful, than in any other part f the State, if I may except those grown the Santa Cruz Monutains. It is also ery prolific though subject to sun-burn hich I think may be avoided by summer runing. Without doubt this Grape deervea the first place among Table Grapes. The next to claim attention is the Parple amascua, called by some Blue Malvoise, ut there are some here, who claim that 10 Black Ferrarra, Black Morrocco or ornichon should take second place and it ill take a couple of seasons to fully deterine the fact, they are all excellent shipera and the Black Morrocco grows to an normous size of berry but not large nuches which, however, is not detrimental, eing easier packed.

The Muscat comes third though many ould give it first place. This Grape does ot set as well as in the valley but the tvor is said to be anperior, certainly it ems to contain within its skin all that is be desired.

The Emperor which has a good record in o valley has fruited with mo during the ist two seasons but has not come up to y expectations-it grows very rank but is shy bearer and ripens so late that the ins are likely to eatch it, but they are so m that notwithstanding the many heavy ins we have had lately there are many e banches on the vines at present writg but their appearance belies their taste they are rather insiped.

The Rose de Peru, Chasselas, Black imburg, Pineaux, all deserve a place but e deficient in the shipping quality though to flavor I think them ahead of the rementioned. A considerable acreage committee of one to continue the investiga- the well.

the expectation of those interested that a ther with the Department of Agriculture at superior wine can be made from the Zinfandel grape grown at this altitude (2426 feet), at all events the vine does well and ment should send on their expert at one folly ripeus a very sweet and palatable second crop of grapes, and in the near future the wine will speak for itself since considerable was manufactured this senson. W. G. HUBLEY.

Colfax, Cal., December 9, 1888.

#### THE WINE-GROWERS.

#### The Regular Semi-numbal Meeting of State Viticultural Commissioners.

The regular semi-annual meeting of the Board of State Viticultural Commissioners was held during the week.

A communication was received from Miss Kate Field stating that she would deliver her first public lecture in New York, and that the expenses of the same would be sbout \$500. On motion of Mr. Doyle, Miss Field was nuthorized to expend an amount not to exceed \$500 in the necessary expenses of a public lecture, to be delivered in the city of New York, in advocacy of the use of California wine.

Miss Field also wrote that she has recently introduced Miss Mary Anderson to sound California claret, and that the charming actress was delighted to find that her native State produced so excellent and pure a beverage. She also inclosed letters from many noted persons in the East to show that her work for this commission was well received.

In reference to the disease which is devastating the vineyards of Sonthern California, Mr. Shorb stated that Mr. Dowlen, the expert appointed by this commission to investigate this disease, was working very hard and was studying the whole disease from a scientific standpoint, but that up to the present time he had not discovered the true cause of the disease, but he was positive that it was not caused by any insect.

Mr. Shorb further stated that thousands of acres were being destroyed by this disease, and if it was not checked that all of the vineyards of the south were doomed. He also was of the opinion that the same disease had appeared in the northern part of the State, and advised the other Commissioners to be on the ontlook for it. He also thought that the commission should use every means in its power to find out the cause of the disease, and if possible to check it. He further stated that he had written a letter to Hon, Norman J. Colman, Commissioner of Agriculture at Washington, asking the assistance of his department in the erection of a conservatory, where the disease could be studied during the winter; and also that he send an expert to work in conjunction with the expert employed by this commission. In answer to this letter, Mr. Colman stated that the department could not furnish any money for building the conservatory, but that next spring he would send out an expert to nasist the commission in its work. Mr. Shorb stated that through instructions from the Executive Committee of this commission he had built a small conservatory, where the temperature could be regulated so that the green leaves could be forced out on the vines and the disease studied during the winter. The commission then indersed the work done by Mr. Shorb, and on motion of Mr. Doyle, Mr. Shorb was appointed a

of Wine Grapes has been set out and it is from of the disease and to correspond fur-Washington, stating the importance of the work, and, if possible, that the Departso that the work can be carried on during the winter.

On motion of Mr. Krag, the chief executive officer was instructed to prepare a circufar describing the disease, and to send it out at once to all the vineyardists of the State, with the request that they keep a lookout for the disease and to report it t. this office when discovered.

The Commissioners then took up the subject of the permanent exhibit in I'latt's Hall, and after considerable discussion, the details outlined in the circular sent out by the secretary were adopted, and on motion of Mr. Shorb, the secretary was made general manager, and the officers and Executive Committee were instructed to carry out the plans as determined upon.

Mr. Krag then moved that a special Committee on Legislation be appointed, and the president appointed on that committee Messrs, Doyle, Manlove and West.

President Wetmore thin stated that at the last meeting of the board it was decided that the commission gath r together repre sentative samples of wines and brandies and send them as a State collection to the Paris Exposition, and he would therefore now instruct the Commissioners to select such samples from their districts and to send them to this office before the 1st of January, so that the secretary can prepare them for shipment.

Chief Executive Officer Wheeler reported that he was making selections of dried Zinfandel and other wine grapes for the purpose of sending them to Paris and Bordeaux in order to ascertain their value for wine-making purposes, and also to find out what sort of a market there would be for large quantities of them. While on this subject Dr. Manlove stated that some dried grapes in his district had sold as high as 33, cents per pound, by the carload; that the Chasselas and Burger made very fine dried grapes, and that the Zinfandel was one of the easiest to dry.

Mr. King reported that he was gathering statistics in his district and would soon be able to hand in his report for 1888,

The meeting then adjourned.

KEEPING GRAPIN .- The late E. P. Roe kept Catawba, Isabella, Diana and lona by picking on a clear day, using grape scissors so as not to handle much, removing all imperfect berries and placing in clean, dry earthern jars, in layers a bunch deep, and filling the jars in this way. Place a double sheet of paper over the top layer, and put on the lid. Strong, unbleached muslin is pasted entirely over the lid or cover of the jar; when the covering has fully dried and hardened, the jars are buried on a dry knoll beyond the action of the frost, a stake being placed over each jar to locate it necerately.

CHLOBATE of potash dissolved in drinking water is good for roup. Cayenne pepper, sulphur and meal mixed in the proportion of I, 2 and 20 also make a good medicine for roup. All the poppers have curative properties. Dampness a great foo of fowls and asualty causes the disease, known by a running from the nose, a foul breath and a dark comb. In this, as in all other contagious diseases, remove the sick from

#### WHOLESALE MARKET.

Q otal one given are f r large lots to the whole CALIFORNIA BARRINA.

Halves, Quarters and Eighths, 25, 50 and 75 cents eigher respective y than whole box prices.

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	GRAPIDI		

Grapes, Muscat, 25<sub>2</sub> Rs. 8, 1, 10or, 1, 50, Galls, 4,50c, 3, R., tins, 2, 25or, 2, 45

#### Sugar Quotations

California Sugar II-finery price list dated December 20th; Circle A. Pat Cube, 7%c; Circle A Crushed, 73,c; Fine Crushed, 73,c; Extra Powdered, 73,c; Dry Granulated, 7c; Confectioners' Circle A, 67se; Extra C, 5°,c; G lden C, 5%c; Star Drips Syrup, in bbls, 171/c; hf do, 20c; 5-gall kegs, 25c; 1-gall tins, 35c per gallon.

Price list of the American Sugar Refinery dated December 20th; Extra Fine Cube, in bbls, 714c; Circle A. Crushed, 7%c; Fina Crushed, 73 c; Powdered, 73 c; Extra Fine Powdered, 75 c; Dry Granulated, XX 71, c, Dry Granulated, 7c; Confectioners' cle A, 67 e; Extra C, 57 c; Golden C, 55 c. American Golden Syrap, in bbls, 20c per

LATEST REPOATS from the San Francisco grape market show small offerings and light

#### COFFEE AND ITS EFFECTS.

Coffee owes its stimulating and refreshing qualities to caff-ine. It also contains gum and sugar, fat, acids, caseine, and wood fibre. Like ten, it powerfully increases the respiration; but, unlike it, does not affect its depth. By its use the rate of the pulse is increased and the action of the skip diminished. It lessens the amount of blood sent to the organs of the body, distends the veins and contracts the capillaries, thus preventing waste of tissue. It is a mental stimulus of a high order, and one that is liable to great abuse. Carried to excess, it produces abnormal wakefulness, indigestion, acidity, heartburn, tremors, debility, irritability of temper, trembling, irregular pulse, a kind of intoxication ending in delirinm and great injury to the spinal functions. Unfortnnately, there are many coffee tipplers who depend upon it as a drunkard upon his dram. On the other hand, coffee is a sovereign efficacy in tiding over the nervous system in emergencies. Coffee is also, in its place, an excellent medicine. In typhoid fever its action is frequently prompt and decisive. It is indicated in the early stages before local complications arise. Coffee dispels stupor and lethargy, is an antid te for many kinds of poison, and is valuable in spasmodic asthma, whooping cough, cholera infantum, and Asiatic cholera. It is also excellent as a preventive ngainst infectious and epidemic diseases. In districts rife with malaria and fever, the drinking of hot coffee before passing into the open air has enabled persons living in such places to escape contagion .

#### NATIVE WINE SHIPMENTS BY

OUR NATIV		SHIPMENTS BY		CA.	T II San Plac	11 (1)
PER P. M. S. S	CO'S STEAME	R ACAPULCO, DEC. 3	, 1888	•	T II, San Blas. V C, San Blas. II S, Mazatlan.	
	TO NEW	YORK.			A P M. San Blag	W Lot
MARKS.	SHIPPERS.	PACKAGES AND CONTENTS.	GALLONS	BJJAT	M Z C, Mazatlan D C, San Blas. L A, Salinas Cruz.	Chan
K & F	Kohler & Frobling	54 barrele Wine	2,727	\$1,637 322	Total amount of Wine,	1
C Y D & Co	J Carpy & Co	7 harrels Wine	350 60	150 50	Louis amount of Wille	BO CAS
J B M	A Brun & Co Lachinan & Jacobl	6 barrels Wine 15 barrels Wine, 70 barrels Wine	300 756	150 253	1 2 2	
l' II M R Broa	S Lachman & Co	70 harrels Wine 7 harrels Wine 3 barrels Wine	3,450 356 148	1,477 166 89	J N K P in diamond	Sperry E Ken
R Bros H C W L R & Co	Overland Transfer Co.	balf-harrels Wing			F A	1
МВ	G Sabilling b Co	5 barrels Wine	1,197 5,660	507 7,260	Total amount of Wine.	
A V Co			15,320	\$6,990		MISC
The contract of the contract o	TO CENTRA				DESTINATION	
B B & Co, La Libertid	Bloom, Baruch & Co.	6 barrels Wine	311	\$210 13	McxicoNe	wbern
B G, Corinto	John T Wright.	1 case Wine	54	3 46 160	Japan Tal	liiti eanic
B M B, Corlnto	E Kemen & Co	20 cases Wine		100	Central America Ma Ka'urlin An Nanaimo Eu	nion na
Total amount of Wine,	G1 cases andTO ME	VICO	382	532	Total	
Gog Wantley			10	* 8	Total shipments by l'anam Total Miscellaneous shipme	a steam ents
		1 keg Wine		37	Grand totals	
Total amount of Wine	TO PAI	NAMA.	71	\$45	FANCH	TE R
F B & Co		2 cases Wine 2 cases Wine		\$7 7		e de
	•	2 cases Wine	-	\$14		01
		R STEAMER AUSTRALIA.			Fruit Trees,	Gra
		11 balf barrels Wine)			11411 11000,	414
16	\$4 24	40 kcgs Wine	873	\$670	White Adriatic	Fig.
G W M & Co	Kohler & Van Bergen .	II barrel Winc	45 247 375	100 185	Pomegrana	
11	**	5 barrels Wine	375 852	330 700 62	A five-pound l	hor of
Q in diamond	Lisen Viacgar Co	1 cask Wing	125 63	110 41	receipt of \$1 50. Send	
RLS	Arpad Haraszthy & Co.	8 barrels Wine	394	15 295		
"		45 kegs Wine	225 250	181 198 20	O E E C	TT
FASCo	C Schilling & Co	2 casks Wine 2 barrels Wine	121 66		PEER	LL
L & Co	Lachman & Jacobi	10 cases Wine	609	180		01
	B W Godge	10 cases Wine	125	564 200		
			4,468	\$3,956		
		STERLING. Nov. 28th, 18	88.			
E B & J	Lachman & Jacobi C Carpy & Co	983 barrels Wine	48,075	\$19,230		
Q B.	44	25 barrels Wine	5.941	2.376		
M in diamond	B Dreyius & Co. T	100 barrels Wine	4,641	1,856		
A G & Co		219 barrels Wine,	22,562 6,200	9,025 2,480		
B8 in diamond II	Kohler & Frohling	50 barrels Wine	23,703 31,866	9,481 12,746 3,762		
C	S Lachman & Co	G29 barrels Wine	9,406 27,230	3,762 10,892	A STATE OF THE PARTY OF THE PAR	
				\$71,848		
		EAMER CRANADA, D		, 1888.		. Ti
		100 barrels Wine		\$1,285 425 755		
J B in diamond B B C V Co	B Dreyfus & Co	50 barrels Wine	2,536 1,231	620	A STORE	
		. 1 case Wine		\$3,110		Jiji illian
		L AMERICA.			SE	A
N 8, Corinto	Cabrera, Roma & Co Eug de Sabla & Co	1 keg Wine		\$18 68	Have Heavier Bea	
G A. Oces		4 cases Wine		60 14 105		
G M, Oces. M C, Champerico. K & H, Champerico.	Urrela & Urioste	3 kers Wine	: 30	25 28	The Only Ste	
E V, Champerico	Parrott & Co	6 kegs Wine 12 cases Wine. 13 barrels Wine. 10 kegs Wine.	652	90	will	not
A S & U	•	to kega willo	153	125 150		
A Z & C, Champerico B B & Co, La Libertad	. Kullman, Salz & Co Bloom, Baruch & Co.	. 5 cases Wine		40 40	Light draft, strong	
L & S, Champerico	. Schwartz Bros	. 70 cases Wine		539 309 42	Duberror to mem m	l.—A.
C H, San Juan del Sur R M, La Libertad	. Horace Davis & Co John F Wright	2 half-harrels Wine	.1 53	36 229	Easily managed, str For further information	
N N. Amapala	Napa Valley Wine Co	. 26 kegs Wins	: 14 30 60	17	TO A	
C P C, San Juan del Sur		6 kegs Wine4 cases Wine		16		
Total amount of Wine	, 105 cases and	***************************************	.  2,215	\$2,313	SAN FRANCIS	-00

T (	) N	IEX.	ICO.

T II, San Blas	IJ Gundlach & Co	2 kegs Wine	40+	\$28
V C, San Blas	14	G kegs Wine	116	67
II S. Mazatlan.	Baker & Hamilton	G kegs Wine	47	31
A B C, San Benito	W Loaiga	13 kegs Wine	186	160
A P M. San Blas	10	3 keys Wine	48	32
M Z C, Mazatlan	Reddington & Co	I keg Wine	10	()
		1 keg Wine		14
L A. Salinas Cruz	86	50 cases Wine		380
11	11	1 keg Wine	20	15
Total amount of Wine, I	50 cases and		480	8729

#### TO PANAMA.

N K Urrela & Urioste 1 bairel Wine in diamond Sperry & Co 2 cases Wine E Kennea & O 10 barrela Wine "E Kennea & O 10 barrela Wine "30 kegs Wine J Gundlach & Co 1 barrel Wine	500 300	\$24 6 200 255 15
Total amount of Wine	887	8500

#### MISCELLANEOUS SHIPMENTS.

DESTINATION	VESSEL.	810.	OALLONB.	AVALUE.
Mcxico	Newbern	Steamer	1,005	\$2×6
Tahiti	Tabiti	Brig	301	135
Japan		Steamer	60	30
	Mation			487
Kalurlin	Anna	Schooner	. 28	26
Nanaimo	Empire	Steamer	30	24
Total	***************************		2,053	\$982
Total shipments by l'a Total Miscellaneous sh	numa steamersipnients	29,26 186,14		\$14,233 76,786
Grand totals		215.40	7	891.019

### FANCHER CREEK NURSERY, FRESNO, CAL.,

OFFERS AN IMMENSE STOCK OF

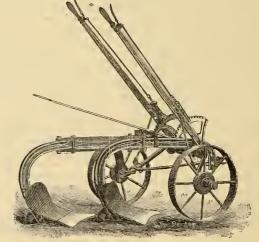
### Fruit Trees, Grapevines and Ornamental Trees, SPECIALTIES:

White Adriatic Fig, Ten Tested Varieties of Tablo Figs, Olives Pomegranates, and also a Fine Collection of Palms, Roses and Oleanders.

A five-pound box of White Adriatic Figs sent by express lo any address on receipt of \$1 50. Send for Fall Catalogue and address all letters to

F. ROEDING, PROPRIETOR, FRESNO, CAL.

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FOR THE-

#### SEASON OF 1888.

Have Heavier Beams and Made Stronger Throughout, Than Heretofore,

The Only Steel Beam Gang Walking Plows which will not Clog in Heavy Stubble or Weedy Land.

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Light draft, strong and durable.—M. Murray, Livermore II as given entire satisfaction.—E. H. Farmer, Gilroy. Superior to them all.—A. J. Huff, San Lucas. Easily managed, strong and durable.—H. Carpenter, Snisun.

For further information, prices, etc., write to

### BAKER & HAMILTON,

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#### OLIVE RANCH OF 448 ACRES,

r 240 acres in one place and 208 in the her. Sold together or apart, having 1,000 olives planted, and commence to ear in 1887. Fully equipped with buildgs, agricultural tools, horses, etc. Sixty ns of hay and plenty of grain; fine stream water. Title perfect. Situated in Santa arbara county, near Los Olivos depot, 'ill aell at a bargain.

For particulars apply to

W. A. HAYNE, Jr.,

### FARM FOR SALE.

Two hundred acres in Sonoma County, ten minutes drive from railroad station, Forty acres planted in the finest variety of The balance rich river bottom, and rolling land capable of the highest cultivation. Several never failing springs and plenty of oak and redwood timber on the property. Good house, large barn, and out baildings. Scenery, climate and roads unexcelled. Good fishing and hunting in the neighborhood all the year round. One f the most elegant and profitable suburban homes in Northern California.

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Inquire of "W. II.," office of the San

NTA BAHBARA, - . . . - UAL. Francisco MERCHANT.

460 ACRES

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### ARGEST STOCK ON THE PACIFIC COAST

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Niles, Alameda County, Cal.

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Phe Best 18 THE heapest!

Don't Buy **InferiorArticle** 

More Profitable to Some One Else.

Ropher and Squirrel Exterminator IN I-LB AND 5-LB CANS

By Ordering Your Groceries

Largest and Cheapest Cash Grocers on the Pacific Coast.

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9 & 11 Montgomery Av, 40 & 42 Fourth Street, 409 & 411 Montgomery Av, 401 Hayes Street,

SAN FRANCISCO, CAL.

### L. G. SRESOVICH & CO.,

505 and 507 Sansome St., San Francisco, Cal.

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IN CREEN AND DRIED FRUITS, NUTS, Etc.

DESICCATED COCOANUT, Manufacturing every day. Ask your Grocer for Pioneer brand. It is the best and cheapest in the world. Medals awarded in all Fairs where exhibited.

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#### OF SAN FRANCISCO, CAL.

		CA	PITAL.	ASSETS.
ANUARY	1,	1875\$	300,000	\$ 747,488 45
ANUARY	1,	1880	750,000	1,160,017 00
ANUARY	1,	1888	1,000,000	2,181,925 18

Losses Paid in Twenty-live Years, \$7,500,000 00.

D. J. STAPLES, President. ALPHEUS BULL, Vice-Presiden, WM. J. DUTTON, Secretary, B. FAYMONVILLE, Asst. Secretary.

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### Sole Agents Pacific Coast.

Royal Baking Powder,

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We will offer a full line of other Grocers' articles shortly.

### FRUIT 300,000 TREES.

We offer for the season of 1888-89 a large and very complete assortment of FRUIT TREES grown absolutely without irrigation.

Also Ornamental and Shade Trees, Nut Trees, Orange and Lemon Trees, Small Frints, Grape Vine Evergreens, Hedge Plants, Shrubs, Roses, Bulbs, Seeds, etc., etc.

LARGE STOCK OF OLIVE TREES, ALL SIZES. JAPANESE TREES AND SHRUBS IN GREAT VARIETY. Correspondence Respectfully Solicited.

## TRUMBULL & BEEBE,

419-421 Sansome Street,

CALIFORNIA

SUBSCRIBE FOR THE SAN FRANCISCO MERCHANT

SAN FRANCISCO,

#### MANURE IN THE VINEYARD.

The Southern Cultivator says the fall and early winter is the best time to apply any coarse manures to a vineyard or orchard, but manures may be applied later in proportion to their sofubility. Ashes have long been esteemed as one of the hest manures for grape vines, because ashes contain lime and potash, both of which abound in the ash of the vine. Ashes should not be ap plied until about the time the vine starts into growth in the early spring, and they may be scattered on the surface and gradually worked in during the cultivation of the crop. But lime is not especially im. portant unless the soit is known to be unusually deficient in this chement, as most clay soils or fresh soils of any character contain an abundance. Moreover, ashes contain even more lime than potash. If the ashes are unbleached and dry, fifty bushels would be a liberal application per acre broadcasted. It would be improper to apply the strong, unbleached ashes immediately around the vines. Leached ashes may be safely applied in almost any quantity.

To insure that the vines will grow off speedily, prepare the ground by deep plowing, or spading, turning under a good conting of welf-rotted stable manure. Secure weit-reoted vines of one or two years old; cut off the long and all bruised roots; dig holes large enough and deep enough to take in the entire root system, fill in at the bottom with rich top soil and rotted manure cut the vines back to two eyes, which should be just at the surface of the ground when planted; press the soil around the stem. When the two eyes have put forth canes and the latter have grown several inches, rob off the weaker and train the remaining one to a stake. Cultivate the surface frequently and mulch at the beginning of hot weather. Bones may be broken into coarse pieces and a peck scattered around each vine and forked in. They will become slowly available and last many years. Fine bone dust may be used if more immediate results are desired, sprinkling the same over the surface at the rate of two or three pounds to each vine and in a circle of three feet in diameter.

#### THE POMEGRANATE.

A correspondent of the Elsinore News ssys: The pomegrapate is known here in California as an oronmental shrub, bearing a beautiful fruit. In Mexico it is called the granada. There they cultivate it extensively and fully appreciate it; it is also regarded as a valuable medicinal plant. It can hardly be called a tree, yet in damp soils, suitable to its growth, it reaches to the beight of fifteen or twenty feet. Here in California it has not been grown very much, or even received merited consideration. Some time ago, however, Governor Downey wrote quite an article speaking of its merits and how its medicinal qualities bad received the recognition of London and Edinburgh colleges, Since then it has steadily grown in favor and is being raised in some parts for market. You see it at many of the oldest Missions, planted many years ago, growing without any care or reapect, and clinging to life, and reminding one of those old days gone by when it stood at the head of the ranks, and was so much thought of and prized by those kind Mission Fathers. People are now begin-

is nothing so charmingly delicious as a saucer of nomegranate seed sprinkled over with sugar-it is so cooling and refreshing and an agreeable febrifuge. It is quite handy, and when growing, either in the hedgs or orchard, it is very pleasing to the eye. It is easy of propagating from seeds or cuttings-the latter the easiest. Plant it eight or ten feet apart, orchard form, or even in a hedge the same as Osage oranges, and will do welt most anywhere. I believe it belongs to the family of myrtle, but certainly is ahead, as the fruit is most valuable; will keep almost forever, and stands any amount of transportation; comes into the market as fresh fruit during the winter. and in a few years there must be a great demand for them in the East where the fruit cannot be grown. Already, some of the Northern unreerymen are taking the hint, and it will not be long before we see in their catalogues several kinds of the pomegranate. It is one of the oldest fruits brought ont into new life; and no wonder, for whether in folisge, or flower or fruit, it is a beauty.

#### EXPLOSION IN A WINERY.

The bonded distillery connected with the Los Gatos Co-operative winery was destroyed by fire Tuesday night together with a large quantity of brandy. About 9 o'clock Herman Rotcher was at work distitling brandy and was making use of a lamp. In passing close to a still, the vapor was ignited by the blaze from the lamp and an explosion took place, the burning oil being scattered in all directions. Rotcher was badly purned about the face and hands, and with difficulty managed to make his escape. The noise of the explosion was heard by the foreman who rushed down stairs and blew the whistle, and in a short time the fire company and a large number of citizens were at the scene endeavoring to stay the progress of the flames. The fire, owing to the large quantity of spirits in the building, spread with great rapidity and all efforts to save any portion of the building were futile. The winery which adjoins the distillery was in danger of being destroyed, but, owing to the good work of the firemen, damage to it was prevented. The power machinery of the winery was loented in the distillery and was destroyed, as was the building and its contents. The exact amount of the loss could not be ascertained owing to the fact that W. B. Rankin, the manager, is out of town, but it is estimated that the loss will not fall short of \$6,000. It is partly covered by insurance.

#### CALIFORNIA AHEAD AGAIN.

The American Grocer says it can no longer be charged that California raisins have not the "bloom" that characterizes Malaga raisins. The flavor is excellent. The packers of California deserve great able market fruit. praise for the persistent manner in which they have fought to place their product alongside of Malaga fruit, and having reached that point, for taking fresh courage and deciding to make California raisins grade above like marks of Malaga. this year's product shows that they have done that. We requested one of the oldest, most experienced and largest handlers of raising in the market to give his opinion of the three-crown loose California raisins before us. He said: "They are extra goods, and equal to four-crown Malaga fruit. ning to value this levely shrub for its Although the market, geographically conbeauty and loveliness. On a hot day there sidered, is against us, I expect to sell this The season lasts about three weeks.

year more California raisins than 1 do those of Malaga." Well done, Catifornia! You are fast driving the raisin-growers of Spain out of the American market, having already forced them to diminish shipments and turn more of their grapes into wine, Every true American rejoices over every new industry planted on this side of the water, and none has a more creditable history than that of the California industry

#### MOSS ON FRUIT TREES.

J. H. Hale, of Connecticut, an experienced and specessful orchardist, writes to the American Agriculturist:

" Moss is found most often on pear trees not in a vigorous, growing condition, or in moist, shady places. The moss is a sort of fungus growth, which is easily kept off by washing the trees with strong soap suds. This treatment promotes the growth of smooth and healthy bark. If the trees are hadly mossed over now it will be best to take an old hoe and scrape off the thickest of the moss before washing the trees and then wash them two or three times during the next two months. In the fall, after the leaves are off, spray the whole tree with the soap sads, repeating this early in the spring. At Elm fruit farm we make a borer wash for our peach and other trees, and it also answers the double purpose of keeping out the borer and keeping the bark clean and healthy. This wash is prepared by adding to a common bucketful of water two quarts of strong soft soap, half a pint of crude carbolic seid, two onnecs of paris green, with lime enough to make thin paste that will adhere to the tree. If convenient, a little clay or fresh cow dung may be added to sssist in making the wash stick. Apply it with a swab or brush about the base of the tree and in the crotches of the main branches. The rains will wash it down from time to time, and the whole trunk will receive the benefit. In spraying the trees when not in leaf, I usually add a quarter of a pound or more of potash to each bucketful of soap-suds, so as to make quite a strong lye. These washes cost but little and are of great value in the orchard.

#### THE DEWBERRY.

L. N. Stone of Iows, in a paper read beforc the last meeting of the American Horticultural Society, said that this berry is soon to occupy a prominent place in the list of small fruits cultivated in this country. There are two kinds-one that propagates by the tips and another by auckers. The former is the best for general cultivation, as it can be kept within bounds very easify. It has a more sprightly flavor than the blackberry, and its larger size, attractive appearance and the fact that it ripens before the blackberry, wifl make it a profit

It stands drought better than any other small fruit, and its trailing habit makes it easily covered in winter in the far Northern latitudes where protection is needed. Set out the tips in early spring, three and onehalf feet apart, and cultivate the first year. Cut the canes back to two feet when they have attained a length of two and one-half to three feet. Bartle's Mammoth and Lucretia, both tip varieties, are excellent, the former being preferred. The yield is about the same as that of the blackberry. Under favorable conditions one hundred bashels per acre are not excessive yields.

#### WORTH TESTING

A French fruit-grower says: The trees of my peach orchard were covered with iussets when just commencing to bad. Having cut some tomstoes, the idea ocenrred to me that, by placing some of the leaves around the trunk and branches of the peach trees, I might preserve them from the rays of the sun, which are very powerful. My surprise was great upon the following day to find the trees entirely free from their enemies, not one remaining, except here and there where a curled leaf prevented the tomato from exercising its influence. These leaves I carefully unrolled, placing upon them fresh ones from the tomato vine, with the result of banishing the last insect, and enabling the tree to grow with luxuriance. Wisbing to carry still further may experiment, I steeped in water some leaves of the tomato, and sprinkled with this infusion other plantsroses and oranges. In two days these were also free from the innumerable insects which covered them.

#### LEMONS

Lemons are among the most popular and widely consumed tropical fruits of the world. In a week's time during the warm season of the year, there are used in the United States alone about 100,000 boxes. Each box contains from 300 to 360 lemous. New York is the distributing point. They range in prices secording to temperature. Oftentimes the prices of lemons vary even more than the fluctuations of the wheat

" Nearly all that are sold in the United States, Germany, Russis, France, England, and the English colonies are raised on the island of Sicily. The whole business of the island is confined to the raising and exportation of lemons and oranges. Sicilians ship to this country alone nearly 5,000,000 boxes a year. There are more used for medicinal purposes to day than ever before, and there is nothing better when you are thirsty or feverish than a hite of a lemon."

Very few are raised in this country. Some ars grown in California and Florida. San Francisco uses more lemons raised in Sicily than California. The same thing may be said of Jacksonville. The home product amounts to very little when compared with the demand. Both States, however, have been able to crowd out Sicily oranges.—Ex.

#### CUT WORMS AND GRAPE VINES.

It is reported that during the past season there was considerable complaint regarding the injury to grapevines by cut-worms. They made their first appearance about the time the vines began to put forth their buds. A correspondent from Eric county, Ohio, has discovered that the larvæ, or caterpillar of "Agrotis cupida"- a climbing cut-worm-is very destructive to the bads of grapevines in this locality. According to this correspondent, six or eight persons bearing lanterns examined the vines each night during the continuance of the caterpillar, and 2,000 caterpillars were collected and destroyed. It was calculated on the basis of one caterpillar eating a single fruit bud each night, that the buds thus destroyed by the caterpillars would have produced at least eight tons of grapes, but it is evident that this estimate falls far short of the mark,-Ex.

#### THE APPLE CROP.

Reports received from sixty-seven districts in the United Kingdom indicate that the English apple crop is a partial failure as regards extent, while the quantity is below the average in forty-six out of the sixty-seven districts. Trade circulars differ as to the Continental crop, some stating that it is likely to be 1 oth large and good, while others report that the prospects in Holland indicate only about one-third of a fair average crop. In Belgium, early apples promise well, but there are indications of a small erop of late apples. A short crop in France is also reported on account of the very wet weather. According to the Department of Agriculture, the Atlantic States to Virginia give promise, in the aggregate, of a medium crop, though the condition is very low in New Jersey, and not over three-fourths of an average erop is likely to be obtained in New York. With the exception of Rhode Island, Conncticut, New York and New Jersey, the condition is better than last year. Tit Virginia the prospect is the poorest for years. Arkansas and Tennessee will probably have good crops, while in Kentucky and the Ohio Valley the prospects are good for a fair crop. The trans-Mississippi States are likely to have medium crops, though there are complaints of poor quality, scab and blight in parts of Missouri. The prospects of crops on the Pacific Coast are considerably above the

#### BOGES CHAMPAGNES

Our generally conscientious neighbor, the Mail and Express, allowed its editorial columns to be utilized recently for advertising the making of an artificial champagne by a man in Germany, who is desirons of securing the services of an agent in the United States. The ostensible reason for publishing the communication was that it described a new and useful invention. The idea, however, is not new, and so far from being useful that the sooner the law stops the neferious business of sophisticating wines the better it will be for the health of our community, for the causes of temperance, and for the honest wine producers of the country. For many years several firms in this city have taken common cheap Rhine and California wines, reduced them with twice or three times their bulk of water, added spirits, tartarie acid, sogar and carbonic acid gas, and then, under various fancy labels, and sometimes with audacious forgeries, have foisted this trash apon the market to be sold by unscrupulous dealers for genuine champagnes. Even if such an imitation as the nrticle described could be made, it opens a wide door for all kinds of fraud and deception. This country can and does produce genui e champague of as good quality as that which is imported. We need no imitations, - American Analyst.

#### THE CAMPROR TRUE.

Wby do we continue to depend on certain parts of the world for our supply of what have become necessities, enquires the Merchants and Manufacturers' Journal. Some of them are vegetable products that, with due care, enght to be naturalized on some part of our Continent, in which thera is every variety of soil and climate. Wby cannot the camphor tree be grown?

The tree is of the laurel family, and grows in China, Japan and several of the the best.

East India countries. It is a tree of considerable size, straight, towering, elegant. The leaves are oval, inclining to the lance. head shape, as they are pointed at each end. They are glossy and leathery, smelling of camphor strongly when rubbed in the hand. The blossoms of the tree are very small; the fruit is a berry about the size of a pea, of a deep purple color when ripe. The camphor does not exude from the tree, even when the bark is ent, but is found in little bunches in the pores of the wood. To obtain it, the trunk, branches, and even the roots, are cut into smail bits and distilled. The camphor, volatilized by the beat, deposits on the cover of the vessel as it cools, and, to remove it easily, the inside of the cover is lined with a matting of rice straw. The crude campbor is exported, and in Europe and this country prepared for the market in the form under which we know it.

The preparation of comphor originated with the Venetians, and was jealously guarded, but the Dutch in time obtained the secret, and succeeded to an almost complete monopoly of the trade. The wood of the tree is used for trunks and boxes, in which to preserve valuable vestments and garments, as the powerful odor repels most

#### HORCEICE LTERE IN OHIO

The horticulture interest in Ohio is as old as any in the State. From the first settlement in Marietta in 1788, when a few fruits were planted, to the present year. when was shown at the Obio Centennial at Columbus the largest and finest display of apples, pears, peaches and grapes (and, perhaps, of plants and flowers, also,) ever seen in America, there has been one continuous triumphul march. An account of this progress and of the achievements in the art of horticulture is being published under the title of a "Centennial History of Ohio Hort:culture' in the journal of the Columbus Horticultural Society, published monthly at the low rate of 50 cents a year. The Journal contains, in addition to the above, many valuable and original papers, by eminent horticulturists, book reviews, select notes on borticultural topics. etc. Send 50 cents now and get the Horticultural History, written by borticulturists in all parts of the State.

#### WINE IN AIGIZONA.

It has been demonstrated, says the Phosnix Gazette, many times that the salt river valley can produce the finest wine grapes in America, and every trial in wine-making bas been crowned with phenomenal success, J. R. Mass of Mesa City cultivated teu acres of Mission grapes the past season from which he sold 23,000 pounds of grapes, dried 16,000 pounds and made into wine 20,000 giving in return 1100 gallons of fine white wine, or 110 gallons to the tou.

Thus it will be seen what can be accomplished on a ten-acre farm. Mr. Morse tella us that through neglect he lost several tons of graps a, as they grew in such profusion it was almost impossible to care for them all. He estimates his yield at four and one-half tone to the sere.

The gentleman presented us with a sample of his wine, and while we do not claim to be expert on wines, yet it was easily to be seen that it was a very superior

THE Philadelphia Medical News prints an important address delivered before the American Climatological Association in its late meeting, by Dr. Loomis of New York City, dealing with the novel question of the climate and cuvironment best suited to people who have passed the prime of lif-The author shows that old age thrives best in moderately warm climates, and that a change of residence once or twice a year is a necessity, while the locality selected must invite an out of-door life, with surroundlugs which stimulate to mental and physieal activity. He emphasizes the importance of persons of advanced age of an abundance and variety of simple, nutritious and wellcooked food, the avoidance of the exhaustive business habits and excit ment of carlier life, and the utility of warm alaaline baths.

THE PRICE OF BRAINS. - A young woman answered an advertisement for a governess in Sydney, N. S. W, and this is the reply she got: " In reply to yours I require a governess to teach English music drawing merit. French (beginners), callisthenics there are four pupils eldest 11 youngest 11/4 and two younger children with whom you would have little to do as there is a nurse. Your two younger pupils would require to be washed and dressed and the eldest to have her hair done. There would be a few light household duties, of which I could H M. Newhall & Co. telt you should you consider the position likely to suit you. The salary is \$150 per annum."

### VITICULTURISTS ATTENTION!

NITROGENOUS + SUPERPHOSPHATES.

-OF THE-

Mexican Phosphate & Sulphur CO.

A Genuine Fertilizer for Vines. Trees, Cereals, &c.

This valuable manure has received the highest testimonials in Northern Europe, where it has been used for the past two years, and is now offered to the Pacific Coast Grower with perfect confidence in its

Full particulars can be had at the office of the undersigned, and pamphlets mailed to address on application.

For Sale by

# ACENTS.

309 & 311 Sausome St., Sau Francisco.

# Description of the Blueberry.

The Blueberry is a valuable fruit, and is a reliable fruit to grow in our northern States where the more tender varieties of fruits winter-kill. It is perfectly hardy, baving stood 40 degrees below zero without showing any injury to the most tender buds. It ripens in this latitude about the 1st of July, and is borne in clusters like currants; shape, round; reddish purple at first, but becomes a blaish black when fully ripened. The flavor is equal to the raspberry, a very mild, rich sub-acid, pronounced by most people delicious. It may be served with sugar and cream or cooked sance, and is splendid for winter use. The plant seems to flourish in all soils, and is a prolific bearer. It grows very stocky and makes a nice hedge. The shinning dark green leaves and the blue fruit making a pleasing contrast. The demand for the fruit is great, and usually brings 15 cents per quart. They commence bearing the first year after setting out, and yields a full crop the second and third year after setting out. They are propagated from suckers and root cuttings. The plant is about the height and size of the currant bush, and very stocky, holding the fruit well up from the ground. Plants should be set in the full and spring, in rows two or three feet apart, and five or six feet between the rows, making a perfect hedge, and no grass or weeds should be allowed to grow between rows.

PRICE LIST

1 Dozen Plants by mail, 60 cents. 2 Dozen Plants by mail, \$1.00

100 Plants by Express, 1,000 Plants by ex. or freight \$15,00

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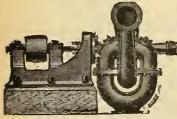
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#### FACTS ABOUT SOILS

The soil is a compound substance of mineral, vegetable and animal particles that form the upper stratum of the earth's surface. In selecting the sit for a farm, there are many things to be considered in addition to the character of the soil. Among these is the important one of location with regard to market facilities, health. good neighborhood and prospective raise in value. Soils admit of many classifications, arising from their different constituents. Rocks are the original basis of soils, having, by the long-continuel agency of the forces of nature, by airmoisture, frost and heat, been resolved into minute particles, taking on the form of earth. Soils ar call d stony, gravelly, clayer, peaty, etc., according as the substauces named constitute a leading feature in the compound. A loam is a soil chiefly composed of silicious sand, clay and other mineral substances along with a large percentage of decayed vegetable and animal matter, to which it principally owes its fertility. The pulvernlent brown substance formed by the action of the air on solid animal or vegetable matter, is called humas, and is a valuable constituent of soils. It renders stiff soils friable, absorbs and retains moisture, and in a large degree supplies the mineral elements of decayed matter in soluble forms for plant

The capacity of a sandy loam for retaining moisture depends on the amount of decaved vegetable matter which it contains and without which it will be infertile. Sandy and clay soils requires different treatment. Each will be benefitted by an admixture with the other, but the union of pure sand and clay alone will be sterile unless supplied with decomposed vegetable matter. Under draining is highly beneficial to clay soils. A sandy loam is easily worked and is among the most desirable of all the soils.

#### TO TELL A MISUROOM

f -It grows in old pastures and meadows, always in the open field and not in

2.-It is round and button-shaped, or like an umbrella, but in each instance there are pink "gills" like the ribs of an umbrella prolonged beneath. These gills turn dark brown when the mushroom is old.

23.-The mushroom can be peeled like stripping off the cover of an umbrella starting at the edge.

4 .- Around the stem, where it comes out of the ground, is a little protuberance, a ring slightly broken.

5. - A mushroom has a sweet appetizing amell, while the "toadstool" is almost fetid

.- The mushroom is nearly smooth on top, while the toadstool, which is a arest it in appearance, is rough and warty on its surface

To cook these mushrooms, peel, clean and break into pieces, cov r with or am or milk, or water and a little butter, let them cook a very short time. They should not boil more than two or three minutes, as they grow tough by cooking too long. Season with a little butter, salt and pepper, and at the last thicken the broth with a little cornstarch wet up in milk er water. These are delicacies whether served on toast, as a sauce for chicken, or alone as a vegetable.

#### ANTI-PYRINE IN SEASILKNESS.

At a late meeting of the doctors of France at Marseilles, says the American Magazine, part of the programme was an excursion to Algiers; and before they sailed, one among them announced the preventive virtues of anti-pyrine in sea-sickness. "Now," said he, "there is an opportunity to test its value in a way rarely occurring. Here are a hundred and fifty doct is of as going to sea, not one of whom is a sailor. Let us take the drng, sail across the middle sea like veterans and enjoy our little trip like old salts."

Adopted. So every doctor armed bimself with capsules of anti pyrine and began to take them as the ship swung out of the dock and headed for Africa; and in half an hour afterwards that society, without exception, was laid out. They stuck man fully to the remedy, determined to give it fair play; but when they landed in the morning, a dragged out, dilapidated-looking set, the vote that anti-pyrine was a miserable d lusion in sea-sickness, passed by a large vote-a strictly unanimous one.

As a temporary relief for sick headache, it has considerable value; but it is as insidions as chloral and even more seductive. All these drugs have about the same biog-They come in with trumpets and beat of drum, heralded as absolute curealls; spread themselves amongst the people like a pestilence, and gradually subside out of public sight, leaving behind some victims to their power who live, and a host of graves.

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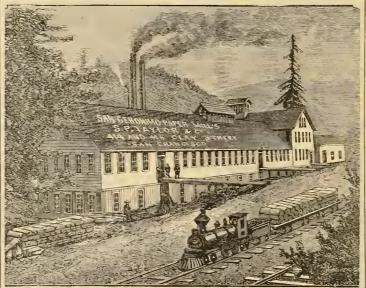
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VOL, XXI, NO. S.

#### SAN FRANCISCO, JANUARY 4, 1889.

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#### THE VINE ROT.

NVESTIGATION INTO THE CAUSES OF THE LOS ANGELES PLAGUE.

weekly Reports of the Special Agent appointed by the Board of State Viticultural Commissioners.

Note - Through the courtesy of the Viticuinml Commission, the MESCHANT is enabled o present its readers with the full text of the eports made by Mr. Ethelbert Dowlen, heir agent appointed to investigate the lisease now prevalent in Los Angeles vinen full, vineyardists in other portions of the whether or not the peculiarities mentioned n connection with the different phases of the disease, have been noted in their vinewill shortly give an analysis of the documents, which will naturally assist in elecirespondence.

#### WEEKLY SEPORT.

The investigation during the past week has been practically confined to the older parts of the vineyard, planted with the Mission grape. This part acems to be a fair sample of the whole, and, in addition, occupies both high and low ground. It has been traversed in various directions so as to cover all parts.

The vines throughout show the same general characters and can be divided into two groups as follows:

In this group the vines are either quite dead, or almost so, all the leaves having fallen off, leaving the leaf stalks on the brauches, and the fruit bunches have dried This group containing the remaining vines proved to be more or less affected all through, both in leaves and fruit, varying from a few leaves to more than half the

The leaves have all fallen off leaving the leaf stalks on the brauches. These leaf stalks are completely dried up from either just at the point of union with the leaf blade to almost the entire length of the stalk, and present a different appearance lodged in some of the numerons irregularifrom stalks which have died in the natn. ties of the surface and had just begun their usually show on their upper surfaces is, of course, necessary. slightly raised, warty patches, red brown San Gabriel, Cal., October 1, 1888.

and silver grey in color; these often exhibit slight fissures. The older branches in which the bark has taken on its brown color show abundance of small spots of fungus growth. The fruit bunches of all ages on these vines, are usually quite shrivelled up, and have all the stalks dried up in the same manuer as the leaf stalks, and these fruit stalks are usually covered with fungus growth.

In this group the vines vary much in appearance, some having a large proportion of the leaves and fruit withered, others having only a few leaves gone wrong, but in all cases the features are the same. yards. As the reports are given seriatim and. The leaves look as though they had been scorched along the edges. The mischief State are thereby placed in a position to has always begun at some point of the endily settle the question for themselves, margin of the leaf, and has then spread inwords, the part affected has dried up, turned brown, and curled in upon the upper surtace, and on almost every leaf examined, yards. Chief Viticultural Officer Wheeler numbering many hundreds, the dead portion shows unmerous spots of fungus similar to that noticed on the fruit stalks. lating many technical points in the cor- Some of the fruit bunches are quite spoiled, and sometimes even plump berries, show spots of fungus similar to that noted above.

A microscopic examination of the leaves shows that on the decayed portion there is a plentiful growth of a minute fungus, the spots on the surface being formed by the fructification. Considerable time has been spent in attempting to trace the fungus into the tissues, but at present this attempt has not been successful. The microscopic ex amination of the warty patches on the branches shows that they are doe to the growth of a small fungus, immediately underneath the cuticle, where it has formed a network of short jointed branches. This growth cansed the epidermal cells, in contact with it, to become filled with a dark, brown deposit, and has eaused the tissuo itself to form the warty excresences. Finally the cuticle has been ruptured, and through this rupture the fungus has come to the outside. In this case also the sttempt to follow the fungus growth deeper into the tissues has not yet been successful. Numerous tissues were observed on the branches, in which the fungua spore, had ral course of things. The green branches growth. Further examination of all th se

PLAN OF INVESTIGATION. J. H. Wheeler, Esq.,

DEAR SIS:-- I beg to acknowledge yours of the 1st inst. I note your suggestions and directions and will act upon them.

With you, I am inclined to think that the trouble may arise from a disease proper, possibly enabled to assert itself by a weakening of the vines from climatic causes of exceptional character, but at present 1 am trying to keep from having a theory to propose, until I have sufficient facts in hand to back up any opinion that may finally be arrived at. At present I do not allow myself to believe or disbelieve any one bing in particular, as I wish to take every thing that comes under my notice for precisely what it is worth, and I shall be very glad to get all the ideas and suggestions that I can. By this time you will probably have received my reports which are made weekly to Mr. Shorb, who has furnished me with some of the reports you mentioned and if he has not the remsinder I will write for them.

With respect to the correspondence others only in part. The affected parts, which you advise me to enter into, I am preparing a series of questions suggested as my work proceeds, which might possibly be printed and sent to vine growers to be filled up by them and returned, and if this were done, the information received could be soon tabulated. As soon as the list is completed I will forward you a copy. Just now I am turning my attention altogether to the leaves and branches of the vines, as these, especially the leaves, will not be available for study in a short time. If you have in the library of the commission any special work on "Fungus Diseases of the Vine," or on "Microscopic Fungi," I should be very glad to see them. I have tried to procure them in Los Angeles but without success.

I am,

Yours faithfally, ETHELBERT DOWLEN. San Gabriel, Cal., October 8, 1858.

VASIETIES MOST AFFECTED.

During the week fresh parts of the vincyard have been gone over and the micro scopic examination of the leaves and branches has been continued. The examination of fresh parts of the vineyard, planted with other varieties and containing younger vines than the portion previously

ure of apparent importance so far as the parts of vines above ground are concerned.

The younger vines have gone off in the same manner as those much older, as here and there single vines, and in other places groups of vines have been attacked, the only difference noticeable between the cordition of these younger vines and the older plants, is the extent to which the vines have suffered. Amongst those examined, the Mataro and Burger varieties have suffered most, the former severely, the Trousseau, Zinfandel, Carignan, and Grenacho having in this vineyard suffered but little. Some wild vines in a neighboring canon, to which attention was called, were visited. They seem to have gone off in a manner similar to the cultivated vines.

The microscopic examination of the leaves and branches has involved the making of a large number of sections, but the fungus mentioned in last week's report has not been traced any deeper into the tissues with sufficient clearness to amount to certainty. In the case of the branches, a fungus does certainly exist in the tissuen of the epidermis, but the difficulty is to determine the depth to which it penetratea. In connection with this part of the subject the black fungus covering the leaves of olive and orange trees has been found to contain, in addition to others, forms quite like those found on the vines, and whether they are really the same remains to be seen. Up to the present, no traces of any insect have been found on the affected vines.

San Gabriel, Cal., October 8, 1888.

#### LEAP STALKS.

The work, during the past week, of the examination of leaves and branches has been continued, some roots have also been examined and some fresh vines in the neighborhood have been visited. The mieroscopic examination of the leaves has not revealed any new features except in one leaf in which every section made, showed that fungus spores had just begun to getminate on each surface of the leaf.

Some leaf stalks, taken from an attacked vine from which the leaf blades had fallen and which were decayed through a part of their length, showed that in the decayed part the cells were distorted and often filled with an amorphous brown deposit which was evidently not simply the dried up cell contents, and the undecayed parts of the examined, has not revealed any new feat- same leaf stalks, in every case, showed well formed cells though they were thin externally, immediately on being lifted, the walled and empty.

The brauches examined were taken part from attacked vines from two vineyards in this neighborhood, some four miles apart, and part from strong healthy vines, comparing sections from the attacked and healthy vines, a marked difference was seen. In every case the sections from attacked vine branches showed the different components of the tissues to be regular in shape and size, but the cell walls were thin and the cells quite empty. Here and there a single grain of starch could be seen, and in some of the greener branches a few chlorophyll grains remained in the outer layers of the bark. On the other hand the sections from branches from healthy vines showed that every available space was crowded up with starch and chlorophyll grains and the cells were well formed and thick walled. The branches from attacked viues were alive and showed no sign of disease, in some instances even the sap could be seen slowly oozing from the freshly cut surfaces, but the life was evidently at a low ebb.

Some roots, the more fibrons portions, from attacked vines have been examined, and, so far, have shown no sign of disease, and this examination and a comparison with roots from healthy vines will be eontinned this week.

The examination of other vines in this district was mainly confined to a plot planted with Burger vines and a portion of a plot planted with Zinfandel vines was also looked over. Scattered about amongst the Burger vines were some of one of the black varieties. Almost all of the black viues have gone wrong and many of the Burger vines are in as bad a plight, but these latter are reported as having saccambed to an exceptional spell of hot weather, whilst the former are said to have fallen nuder the attack of the so called Los Angeles Vine Rot. In each case, however, the appearance of the vives is the same. the branches are either unripe or only partially ripeared and are destitute of leaves, whilst the bunches of withered fruit still hang on. Many of the Burger vines have made an attempt to start new shoots. Amongst the Ziufaudels many vines have lost all their leaves and have an appearance similar to those attacked by Rot, and these too are reported as having given way to the spell of hot weather. It is to be noted that, so far as this investigation has goue, those vines growing on light soils have fered worst, and, other things being canal, the dampuess or dryness of the soil almost seems to be a matter of judifference.

Oue cousoling feature is that up to the present not a sign of anything in the shape of insect pests has been observed.

San Gabriel, Cal., October 15, 1888.

EXAMINATION OF STEMS AND ROOTS.

During the past week a constant lookout has been kept to catch any new feature that might have followed either the few hot days, or the two showery days; nothing except a slight increase in the amount of fungus spots on ripe berries was noticeable.

In examining the stems and roots of vines, a constant watch was kept for signs of injurious insect work, but nothing of this kind was seen. The vines examined were all attacked, and had entirely lost their leaves, and were taken, some from high ground, some from lower levels, from both light and heavy soils, and varied in age from six to fifty years. Each vine taken

stem was pared away all round the outside, and then split down its entire length; portions of stem and roots being taken away for microscopie examination.

With two or three exceptions all the vines showed some portion of the stem to be dead, there were either dead patches in the heart wood, or else stripes of dead wood or bark, which did not always run straight up and down, though they followed the twist of the stem. In nearly every instance these patches of dead tissues could he traced back to some external injury of the stem, or else to a small root or branch that had died right back into the heart wood. In some vines the stem had evidently been subjected to a hard pull, which had slightly opened the crown, this injury had partly healed up, but not perfeetly, it was plain that the two surfaces had skinned over hat had never grown together properly, damp and dirt had found a resting place and then decay had set in. In one stem through some opening which could not be traced, a grass seed had found its way, had germinated, and was sending out vigorous roots upwards through the center of the stem which was thus being gradually split asunder; this was in a Mission vine of some six years old. In two stems white auts had began to clear out the dead parts. The tissues of the stems, where alive, were empty, and the cell walls were thin, but otherwise were in a normal condition.

The roots, whether dead or alive, did not show any sign of disease, but presented similar features to those observed in branches taken from attacked vines. In all the tissues the cell walls were thiu, the components of the woody tissues being either quite empty or almost so, the cells of the bark were fairly well filled with starch. One specimen which had a sound stem, and had attempted to put out new shoots, had all the cells quite

Roots taken from a healthy vine showed thick walled cells and an abundance of starch in all parts. The fibrons part of the roots was difficult to get in anything like good order, the soil being so dry it was almost impossible to get good specimens of the extreme root ends, many of the fibrils obtained were dead.

Seeing that in nearly every instance the dead and decaying parts noticed above could be traced back to some external injury not connected with any disease it is important that every care possible be taken in cultivation, especially when the vines are young and the bark tender, to protect the plants from hard knocks and wrenches, as such ill usage must of necessity weaken the vine, and so cause it to fall more readily under the attacks of animal and vegetable

San Gabriel, Cal,, October 22, 1888.

J. H. Wheeler, Esq., Chief Executive Viticultural Officer.

DEAR SIR:- Enclosed is a draft of series of questions, which, if answered properly, I have thought would give all the information as to the conditions of vineyards, that could be obtained by correspondence. If these questions were printed and sent out to vine growers together with a stamped addressed envelope for return, and a circular explaining the matter, and assuring correspondents that the information given would be treated as in confidence, at any

would greatly facilitate the gathering and tabulating of the information required.

I have shown the enclosed to Mr. Shorb. who has made some additions, and he coucars with my suggestion. Should the Board consent to the course suggested, you will doubtless be able to make improvements in the series of questions. Whether the Bourd adopts this course or not, I shall be very glad of any hints you could give me in the matter.

Yours faithfully. ETHELDEST DOWLEN.

San Gabriel, Cal., October 25, 1888.

Was your vineyard planted with cuttings, roots, seedlings, or if grafted, ou what stock? Name varieties.

Whence obtained? (Locality,)

Location, height above sea level and slope of vineyard if any.

Kind of soil and subsoil,

Describe irrigation practiced.

Describe praving practiced.

Have the vines soff-red from any disease, if so describe, and give the date of first and subsequent attacks, and did the vines attacked start early or late?

Did attack come on directly after fogs, rain or hot weather?

Direction of prevalent winds.

Are there any olive, orange, or other orchards in the immediate vicinity, if so on what side of vineyard are they located, are they affected with scale?

Which varieties of vines have suffered most? Name them in order, beginning with the most affected

What varieties, if any, are exempt from disease?

San Gabriel, Cal., October 29, 1888.

Since the last report some fresh vineyards containing Mission, Blane Elba and Chasselas viues have been examined.

So far as the Mission vines are concerned. the only difference noticeable between these last vines, and those previously examined, was the extent of the mischief done, one plot of some twenty-five acres has almost all the plants badly affected, the vines showing nothing but nuripened canes, many of which are almost or quite dead. and bauches of dead partly formed fruit

The Blanc Elba showed very little sign of disease, it was only here and there that a defoliated vine could be seen, and these defoliated vines could easily be divided into two groups, one in which the canes were well ripened, though not fully so, and auother which had all the caues unripened, with bunches of dead partly formed fruit, still hauging on them. Specimen canes from each of these were taken and examined under the microscope, the ripened canes showed all their tissues to be well filled, whilst the unripened canes, as usual, had every part quite empty. One of the plots of Blane Elba containing both ripe and nuripe vines was said to have a few Mission vines in it, and it is quite possible that the unripened plants were the Mission. if so, then this plot had entirely escaped. for the ripened vines which were defoliated had probably lost their leaves from some cause other than the so-called Vine-rot, all these were on low lying, moderately light soil.

Another plot of Blanc Elba on a steep slope and light soil had a few vines, especially on the highest ground, which had gone wrong, these all showed the usual features of unripened, and dead canes with up had its stem and roots closely examined rate so far as all names were concerned, it bunches of dead partly formed fruit,

The Blanc Elba seems, so far, to be fairly resistant, another feature noticeable is that it does not seem to be a favorite with the cottony eushion scale, for though one of the above mentioned plots is practically surrounded by orange orchards, much affected with scale, the vines are only slightly attacked, at the most about two vines deep all around the plot and these had only a few insects on them, though other plants near by were completely covered with scale.

The Chasselas vines had been attacked somewhat severely, and in the same way as the Mission, and seem to stand between the Mission and Burger as to the extent of the damage done.

It should be borne in mind that, at present, it will be unwise to give any expression of opinion as to the qualities of vines as all these favorable or unfavorable featares may be reversed when new districts come to be examined.

A considerable amount of time has been taken up during the week in a close search for signs of the Leaf Spot disease which is the forerunner of Black-rot. A few vines had been found having their leaves affected with a Leaf Spot, but up to the present, none of these have proven to have been caused by the Phyllosticta labrusca which is now considered to be the form which the inugus of Black-rot, Phoma avicola takes when developed on the leaves instead of in the f.vit. The destructive power of Blackrot fully justifies any amount of time and labor spent in its detection.

The only fresh vines inspected during the week were some very old Missious, in a vineyard on nudulating ground, with a general southern aspect, the soil varying, Here, as usual, the vines had been attacked in an apparently capricious manner, in some parts, large patches had been taken leaving here and there a single healthy vine; in other parts the vines looked particularly strong, still, in these places single plants could be found which had gone un. der; some of these diseased patches occupied the lowest ground, others, the highest, and though the majority of the plants attacked were on light soil, there were many on the heavier ground. The microscopic examination showed nothing but the featurea already met with.

San Gabriel, Cal., October 29, 1888.

#### FUNGES ON FRUIT

Whilst examining the fruit still left on the vines, some specimens were found which differed from any previously met with. In one the berries, plump and at first sight healthy-looking, showed patches of the surface covered with minute pimples, without any discoloration. The small pimples were found to arise from a thick network of mycelinm under and in the epidermis of the berry; several of these knobs may be connected by large threads. The larger mycelial threads are divided by unmerous septa giving them a great likeness to the fungos on the branches mentioned in the Second Report, October 8th. A transverse section through one of the knobs shows that each is the fructification of the fungus, though of what particular kind is not certain, as the specimens examined were not fully grown, and at present have refused to develop farther. The color of the large septal mycelial threads is greenish-brown. The naripe contents of the pustule are colorless, all the tissues have their cells distorted and filled with a brownish deposit.

e finding the first specimen, others een found amongst the Mission and

nother specimen the surface of the showed a whitish blister. This to be caused by the enticle being up by the growth of name rous brown. d hodies und rit. Under the microhere were found to be composed of s of large short hyphæ. A piece of rry bearing several of these bodies laced nu ler cover, in moist air, lu euing, and by the next morning it overed with a thick mass of white, ing myeelium, with masses of large, reen spores on the tissue of the

Unfortunately the growth was too to eatch the different stages of it. ach of the above the whole of the berry was invaded by ungua. Considerable difficulty s part of the work arises from t that, on some days the atmospher to be loaded with faugus spores to n extent that it is almost impossible ke a preparation for the microscope t getting something foreign to the eu under examination. This fact terferes considerably in the growing imens under cover. Since the short luring which these may be exposed mination is sufficient for the intron of elements detrimental to the sucf the experiment, many apccimens thus been rendered useless. This will doubtless cease when more nall have tallen and washed the air.

Gabriel, Cal., November 5, 1588.

ONDITION OF VINES AT ORANGE.

e the last report visits to vineyards ther part of the county and to some ground in this district have given uteresting information.

he early part of the week a vineyard district was visited, a part of which ited on some of the highest ground neighborhood. The portion of most t here has a general east and south ; the soil is moderately light gravel. ines, Muscats, were in good condihere being only here and there a ripped of its leaves, and showing the uuripe canes, and hunches of withrait. Specimens from these attacked were taken, and under the microscope howed the same characters as similar from Mission vines have done, viz: dls of the tissues thiu-walled and empty

er in the week several vineyards at e were visited. These are all ou low d, the soil varying from heavy adobe te light aand. Here the Muscat was ily variety seen. On the heavy d all the vines, with the exception of lot, were either dead, or almost so ny places the vines have been taken and other fruit trees have been d. This work is still in progress; limry exception to this state of thinge heavy ground is a piece of heavy which has been planted with Muscat gs from Riverside, a district as yet ected. These were put in quite at the I last May. They are now particuvigorous and healthy looking, the folining exceptionally clean, and this, too, e midst of a tract in which all the have been swept off. In contrast to another piece, similarly situated, was ted, which was also planted in the part of this year, but with Muscat igs from Orange; this has all gone

ranning down to the river, of which it is probably the last deposit. This has a one corner. On the small portion of heavy soil all the vines are dead; as the heavy ground tails off into the light, so do the I all vines decrease in number, until on the quite light soil the vines are all strong and h- althy-looking.

The trouble with vines at Orange is reported as having begun about three y ars ago. So far as seen the destruction of vines is now almost total.

The above facts do not lend support to the idea that climatic conditions are at the bottom of the present vine trouble, though such conditions may be a factor in the case They rather tend to the view that the trouble is the result of a disease, perhaps infections, which is capable of being propagated by cuttings from infected areas, would be well to keep a careful watch ou such plantings of healthy cuttings as that noted above

Sp eimen canes from attacked vines were taken and put under microscopic examina-They revealed no new features, the tissnes b ing almost or quite empty. One specimen from a strong growing cane was interesting. This, throughout its length, had about half its circumference ripeued; the remainder was still green. In the ripeued part the bark was clean and brightcolored, and the sap was still flowing; iu the green part, which was also the top side of the branch, the bark was thickly spotted with the fungus mentioned in earlier reports, and no sap was flowing; under the microscope the difference still showed, the ripened section having its tissues wellgrown and full of starch, the unripened portion having its tissues quite empty, and not fully formed,

The fungi mentioned in the last report. No. 6, have not developed in the direction required, the altered conditions arising from placing the specimens under cover seem to have caused a great development of mycelinm, while the fractification has stood still.

San Gabriel, Cal., November 12, 1888.

#### CONDITION OF MATABO VINES.

During the past week another examination of roots, stems, and branches has been made; this time of Mataro vines. The previous examination was unsatisfactory with respect to the fibrons part of the roots, the dryness and hardness of the soil eansing the extreme fibres to break off in the removal. On this occasion a group of affected vines, including a quite healthy specimen, was banked round, and sufficient water run in to soften the soil down to naturally damp earth; in this way fair specimens of all the roots were obtained.

These Mataro vines, six years old, and standing on light soil, lost their leaves later in the season than the other varieties before examined, and, therefore, have their caues more ripened; in other respects they exhibit similar features to those found in the other varieties, viz: the branches stripped of their leaves, and having bunches of partly formed withered fruit still hanging on.

A few of the smaller roots were dead; these were not observed to be on any particular side of the vine. In one or two instauces roots were found which were dead for a short distance from the stem, the remaining portion being quite sound; these

acrea, is situated on very light, sandy soil showing neither diseas d patches of bark, nor malformations, nor yet any sign of insect life; they appeared to have been growsmall strip of heavy gravel running in at ing vigorously, going deep down into the soil before branching out; no fibres were obtained from main roots at a less depth than two feet, many were considerably deeper. About half the extreme fibres from the aff-cted vines were dead; all those from the healthy vine were living. microscopic features of three affected vines, typical specimeus, and of one healthy vine are given b-low.

No. 1, affected. Stem. Greater portion dead. Cells of all the tissues quite empty, and thin-walled.

Branches. Bark fairly ripened. Cells of all tissues quite empty, but moderately thick-walled, the external bark very full of the fungus mentioned in the Second Report, October 8th.

Roots. Cells of the bark in some cases contained a very little starch, in others a little thickened sap; cells of woody tissues quite empty. Cell walls thin.

No. 2, affected. Stem. Cells of bark with a few starch grains; cells of woody tissnes empty, and thiu-walled.

Brauches. All green; the bark quite clean and free from the usual fungus; cells of all the tissues quite empty, and thin-

Roots. Cells of bark in all containing some starch; cells of woody tissues quite empty, but thicker walled.

No. 3, affected. Stem. Part dead, main portion alive; cells of all tissues empty except for a little thickened sap.

Branches. Fairly ripened; cells of bark in places showing signs of decay; cells of all tissues empty, except in the bark, where a few were filled with brown altered cell contents.

Roots. In each specimen the bark cells eoutained a little starch, the cells of the woody tissues being quite empty, and the cell walls in all were thio.

No. 4, healthy. Branches. Well-ripened; eells of all tissues loaded up with starch; cell walls thick.

Roots. The cells of all tissues in the larger roots were well-filled; in the smaller roots only the cells of the bark were filled; in all the cell walls were thick.

This vine still retained all its foliage, which was not yet beginning to turn color.

The fungus mentioned above, No. 1, as occurring in the outer bark, is usually found on one side, the upper, of the branch, but in the Mataro vines, owing to the more upright habit, all sides alike are invaded; in some cases it has formed a mat just under the surface, but not coming outside,

It is evident that vines in the condition of Nos. 1, 2 and 3, are scarcely likely to live through the winter; even if they should do so they could not put out any healthy, vigorous growth. They have not been picked out as exceptionally bad, but rather as fair samples of the affected vines in the plot of Mataros.

San Gabriel, Cal., November 19, 1555.

#### VINES AT TUSTIN AND SANTA ANA.

Since my last report, vineyards in aud around Tustin, Santa Aua and Orange have been visited, the vines seen were of the following varieties, viz: Trousseau, Muscat, Zmfandel, Sultana and Flame Tokay. From what was seen and reported, it seems that, at the present time, of the vines left in the district, the Muscat is the one most affected.

Another vineyard visited, of about 300 ternally the roots were very clean-looking nearly all, possibly quite all, of the faw remaining vineyards are affected, some to a considerable extent, affording but poor prospects of a crop in the coming year.

> Amougst the Muscat vineyards seen was one of about 180 acres, this at a short distance appeared to be in good condition, howing plenty of foliage, a closer inspection showed that it was only an appearance, A large majority of the vines had put out a number of very short canes, none of which had ripened, neither borne any fruit; they still retained their leaves, but every vino had its foliage apotted with the peculiar yellow and brown spots, which are reported as being the sure sign of impending attack; the foliage of those vinea which had made the normal amount of good growth, in most eases showed the same signs. soil in this vineyard was adobe and heavy gravel, getting a little lighter as it ran up into the foothills; the vines were six years

Another piece of Muscats, about 300 aeres, partly on heavy gravel, and part on light sandy soil, was the best piece seen, the vines here had in almost all cases made a good growth and borne a fair crop, yet here and there were vines with green unripened branches, bare of leaves, the yellow spotted leaves were quite frequent, even on otherwise healthy looking vines; on the heavy gravel all the vines were dead.

A third piece of Muscats was a piece of cuttings from Redlands put in this year, having a few two year old vines scattered amongst them; the soil heavy loam. All the two year vines were touched in the foliage, and many of this year's cuttings showed the same signs, though a good growth had, on the whole, been made; viewed from the road, the piece looked in good condition.

A plot of Trousseau vines three years old on heavy soil had suffered badly. This piece started well and promised a good crop, but in July or the first part of August, about fifty per cent. of the vines lost their leaves, the fruit was not then fully formed, and it grew no further, but dried up and was still hanging on the vines; tha branches of the defoliated vines were ripened, but somewhat thickly infested with the usual

Of the Zinfandel vines seen, one plot was practically destroyed, only here and there a vine being left; this was on heavy, adobe soil. A few miles distant, in the same vineyard as the Muscats, on light soil was a plot of Ziufaudels in fairly good condition, some of the leaves showed the usual yellowish spots, but these were not present to any great extent; these vines had given a fair

The Sultana vines were touched to a slight extent, rather more than the accord lot of Zinfaudels noticed; some vines had been defoliated, others had the usual yellow apots on the leaves, these were five years old and on light soil.

The Flame Tokay, five years old, on light soil could scarcely be said to have been touched, here and there a leaf could be found with yellow spots, but they were rare. These vines gave a good crop this year. None of the above mentioned vines had been irrigated.

It was the general opinion that, in this district, the trouble began three years ago, at that time a vine died here and there for uo apparent reason, and as the instances were few they attracted no particular attention; the next year the single vines were were near the surface of the ground. Ex. Many vineyards have been cleared out, and represented by patches of dead vines, and their attention was drawn to the yellow spots on the leaf; this year the patches have increased to whole vineyards.

The yellow spots may be easily mistaken for natural decay of the leaf, especially at this time of the year, but a close inspection will detect them, and show the difference. It was also reported on reliable authority, that the vines in other parts of the State, north as well as south, showed decided signs of impending attack. This was reported as the result of personal observation.

San tiabriel, Cal., November 26, 1889.

#### CANES FROM MUSCAT VINES

The examination of branches and leaves from vineyards at Tustin and Santa Ana has given results somewhat contradictory to previous experience, so far as the branches are concerned. The branches were taken as much as possible from the vines which appeared to be fair samples of the vineyard.

Among the muscats may be found a great many branches having a stalk of unripened wood, running the catire length of the cane, this stripe sometimes stops at each node, but usually it runs right along, and often embraces as much as half the section of the branch. In color, this nuripened stripe ranges from greenish-brown to almost black, it is usually thickly spotted with the fungus mentioned in previous reports as occurring in the bark. If the fungus is distributed all over the branch, it is always more abundant on the unripened stripe; in cutting one of these branches through, when fresh, it is often apparent that the nuripened section is much dryer, right down to the pith, than the remainder of the branch, this difference is plainly marked under the microscope. The ripened section almost always has its cells well developed, and filled with starch, whilst in the unripened section, the cells are always empty, and not so fully formed. There would seem to be an intimate connection between the stripes of unripened tissnes, and the fungus found in their bark. This same kind of fungus is generally abundant on the wholly unripened branches of affected vines. Whether the fungus is present as the cause, or the effect of the unripened state, can only be satisfactorily determined by experiment.

Amongst the specimens from muscat vines examined were the following:

- 1. Cane part ripe and part green. The bark of the green section spotted with fungus, all the parts of the bark and wood not well developed, no starch anywhere except a very little near the cambruin layer in the ripened section.
- 2. Cane part ripe and part green. The bark of green section spotted with fungus which spread over on the ripened section, Bark of green section thin, its cells and those of the wood thin, walled and empty, in the ripened section both bark and wood well developed, and filled with starch.
- 3. Cane part green and part ripe. The bark of green part thickly spotted with fungus, cells of bark and wood thin walled and empty. Bark of ripened sec tion clean, cells of bark and wood well developed and filled with starch, In this instance there was a gradual transition from one stage to the other.

Specimens from those vines mentioned in the last report as having made a short growth of branches which had not ripened, their wood was found to have all their tissues quite empty.

The examination of canes from the

those found previously. Hitherto it has always been found that branches from defoliated vines had their tissues almost or quite empty, as in the case of the Mataro vines mentioned in report No. 8, but the canes from these defoliated Troussean vines were found to have their tissues quite as well filled as those from vines which had retained their leaves; only one specimen was found which had its tissues empty. All the others were quite normal.

The examination of the leaves has given no satisfactory results so far. In the district last visited, Santa Ana and neighborhood, the leaves which were reported as being evidence of a vine being affected, showed the following characters: Faint yellow spots make their appearance usually near the margin of the leaf. These can he detected by bolding the leaf up to the light, when they would not be noticed if the leaf were viewed as an opaque object. These spots unlarge, become more decided in outline, deeper in color, and finally become light brown and dead. When this condition includes the whole margin of the leaf, the dead part curls over upon its upper surface. Sometimes the spots appear all over the leaf, and they often have a narrow, well defined black, or dark brown outline So far, nothing has been found which can be satisfactorily put down as the cause of these stots, a small fungus, probably a species of Cladosporium is often present, and a solitary example of resting spores, probably of mildew, has been met with, but these cannot be considered as evidence.

The examination of these leaves will be continued as long as the supply lasts, a gentleman at Orange having kindly undertaken to forward a supply twice every week.

San Gabriel, Cal., December 3, 1888.

#### FUNGUS ON MUSCAT LEAVES,

The work of the past week has been mainly the continuation of the examination of the leaves of Muscat and Tokay vines. The dry leaves did not show anything new, the fungus mentioned at the end of last week's report, as being a Cladosporium, was scattered sparingly over the dead patches, besides this, nothing could be seen either on the surface or in the tissues. Three pieces of Muscat leaves, each containing a dead patch, which had been floated on water, were found, after the lapse of four or five days, to have developed a considerable amount of mycelium on their under

The microscope showed that large numbers of spores similar to those noticed in report No. 6, November 5th, had been produced; the younger branches of the mycelium were colorless, the older were dark brown, with many divisious, giving them almost a beaded appearance. On both sides of the leaf were found a number of pustnles of different sizes, which varied in color, evidently according to age, from clear very light brown, to almost opaque black, and which may eventually turn out to be of the following three kinds:

1. These are evidently perithecia; they are spherical in shape, very dark brown in color, and, in the specimen under notice, seemed to be almost loose on the surface of the leaf, being apparently held on by only a few threads of mycelium; on being ruptured they were found to contain some granular matter, some yellow brown oil globules, and four or five asci, which were almost spherical in shape, and furnished Trousseau vines mentioned in last week's with a very short pedicel, colorless except ter.

report, has not given results agreeing with for their contents, each useus contained four to five spores, cylindrical in shape, with rounded ends, and filled with five, granular matter; the usel seemed to enlarge after escaping from the perithecium,

- 2. These are larger and more deeply imbedded in the tissues than 1. They are not yet fully developed, but appear to be pycnidia containing stytospores; they vary in color from clear brown to almost opaque black.
- 3. These are smaller than either 1 or 2, and seem net to be fully grown; at present they have a clear spot at the apese as though there would presently be an opening there; whether these are spermagonia or not remains to be seen. All the above mentioned forms especially 1, 2 and 3, are much more frequent on the dead patches of the leaf than elsewhere.

There is a great resemblance in these forms, to the fungus causing Black-rot, but the shape and unmber of the asci and their spores, and the fact of the pustules occurring on both sides of the leaf show that it is not the same.

The examination of the above forms will be continued, and an attempt made, during the ensuing week, to obtain similar growths on other specimens. Of course it cannot be taken for granted, from this one example, that this fungus growth is the cause of the dead putches on the leaf, as this can only be settled by actual experiment, and no deductions can be drawn until repeated experiments have produced similar results, not only on single leaves, but also on entire plants,

With respect to the printed question forms which were lately issued, it is to be regretted that so few vineyardists have returned the information asked for, only seventy-four replies having been received up to date.

San Gabriel, Cal., December 10, 1888.

#### FUNGI ON LEAVES IN WATER.

The examination of affected teaves, both floated on and submerged in water, has been continued, On some specimens an abundant fungus growth has been formed, a part only of which has been examined. So far as the examination has gone the specimens have shown a more abundant growth on the under surface, though in the specimens which were submerged there has been a considerable development on the upper surface also. The mycelium, in some cases, has been abundant enough to form a growth hanging down as a floculent mass of quite a quarter of an inch in length. The forms best developed as yet are as be-

No. 1. A perithecium described in last week's report as No. 1. It probably belongs to mildew.

No. 2, . A perithecium. These are not deeply imbedded in the tissues of the leaf; when ripe they are somewhat loose on the surface. Color, black, when seen as an opaque object; dark-brown by transmitted light; spherical in shape, with a small, blant papilla at the apex. A transverse section shows an outer colored shell of pseudo-parenchyma, lined with a clear, colorless zone; the interior is filled with some granular matt r and a number of asci. Each ascus is elongated, cylindrical, with a very short pedicel, straight or slightly enryed, transparent, colorless, except for its contents of 8 ascospores.

No. 3. Ascospores from No. 2. Each spore is spindle shaped, transparent, nucleated, and filled with grayish granular mat-

No. 4. Small spores from capsuler about the same size and appearance as 2. They are very dark greenish-brow color, covered with minute projections, show signs of segmentation; they are be on short pedicels. The developmen these has not been seen in all its stage it has generally taken place during night.

No. 5. Capsules almost loose on the face of the leaf; they are almost sphe in shape, black when opaque, very d brown by transmitted light. The my threads at the base are septate, color except close to the capsule, where the tinged with brown. The weight of cover glass was sufficient to rupture capsule; the contents were granular me abundance of dark yellow oit, and s rounded spores. 4 These were appar not ripe, and may be a stage of No. 4. Nos. 7 and 8. Spermagonia? No

fragment of a diseased patch showing small capsules on the under surface of leaf. No. 8 a side view of one of the snles. These are apparently spermag All stages of their development hav been found at present. They are de imbedded in the tissues of the leaf, an much smaller than either of the f above mentioned. They vary in color clear, light brown to almost black. are spherical in shape, with a clear sp the apex, where there is a somewhat gated papilla. The contents, (sperms are very small spores, cylindrical in s

At present attention is being paid to the variety of forms produced, th the tracing out of the complete grov any one of them. The growth in so rapid, and these, when taken in must be watched continuously or so the stages in their development are c to be lost.

colorless, locomotive; by what mean

locomotion is obtained could not be

even under the one-twelfth inch obje

San Gabriel, Cal., December 17, 188

#### MISSION VINES.

In report No. 1, October 1, some sion vines were mentioned as showin tain full-grown branches, which ha ripened, and which showed on their surfaces certain warty patches of a color, which were found to be due growth of fungus immediately under the cuticle. Many of these vines been examined during the past weel in no instance was one of the above tioned branches found alive, all, so seen, were dead, and the fungus gi which at the beginning of October s. as a fine, branching system, has now considerably, and shows patches and stripes, as well as fine branches.

Besides the Mission, the Mataro, ache and Cariguane varities were se these, the Carignane showed by fa cleanest branches. Next came G.e and Burger, and last the Mataro, showed branches thickly spotted with gus like the Mission.

The diseased leaves mentioned i last two reports, have been watchedtl the week for further developments new forms have been produced, but has been on some specimens a gre crease in the numbers of the spore especially is this so with those men in last week's report, as Spermagoni

In report No. 11, December 10, capsules were mentioned as possibly pycindia, this supposition has prove he first lot of specim as started three s since, now show their contents much er, as eight oval spores, light yellow, a in color, and already, before escapfrom the Ascus, much segmented. al vineyardists between thirty and in number, have reported varieties of as exempt from disease, they have written to dur ng the week for further nation, and their replies are now comn. The Experimental Conservatory een started, rooted vines representing arities most aff cted having been put

ETRELBERT DOWLES. Gabriel, Cal., December 21, 1888.

ring the past week a vineyard of some ieres at Limanda Park was visit d. situated on a slope facing the souths unning back to the foot of the mounthe soil light, sandy-loam and grave many large stones, the vines are comively quite young, from 3 years to 4 old, except a few scattered plants a are apparently several years older. varities are Zinfandel, Biauc, Edba, , Sultana, Carignan, Burger, Greu-Mataro, Petit Pino, and Trousseau, red about; amongst thes are the vines mentioned above, to se are y all Missions. On the whole, the ard has not been much damaged by evailing diseas . The varities affected are the scattered Missions, nearly all, t all, being d ad, next the Burgers, oportion could not be ascertained, next ataro, Pisco and Zinfandel which were ly affected. The Grenache, Blauc, Sultana, Petit Pino, Carignan, frousseau seem to have escaped. The and afficted vines showed the usual res, so far as could be seen; now the e has fallen-the branches showed an daut fungus growth, and though the thes are no longer green, streaks and es of unripened wood could be plain. steeted, these under the microscope nothing new, the usual state of empty being observed on some vines, Misthe bunches of partly formed dried nit were still hanging. e roots also gave no new evidence.

and there one of the larger roots was I to be dead, and a certain proportion · fibrous roots was dead. The Burhad been sulphured once for mildew, the Mataro slightly sulphured, as w has not been very severe, though it sppeared every year.

parcel of specimens from Sonema ty has also been received for examina-This has been done and the result two R ports, Nos, 12 and 13, This lelow.

e specimeus consisted of three spurs branches and a few separate canes, some leaves which were very dry and

my of the branches, on the surface, ed nothing in particular, being someclean looking on their upper surfaces gh there was a considerable sprinkling ugus, especially towards the base of brauch, the extremities of many were and had evidently never ripened. ks of unripened wood also showed on

A small cane, dead at extreme end, t half way down one internode was in half its section, all below this was . The bark showed the fungus mend in previous reports, only somewhat er in the tissues in the internode which

specimens.

ct The Asci from perithecia formed was half dead and half alive, the bark was thin, the cells were filled with brown deposit, and in the woody tissues no starch was present; in the portion below this, still alive, the tissues of bark and wood were apparently healthy, but were almost empty, there being only a small amount of starch in very small grains present.

2. Spor and branches; spur alive, branches all except two dend. These two were only alive for a short distance from the spur. In this both spur and branches showed the same characters; the cells of the bark were empty, except a few which were filled with brown deposit. The cells of the wood were also empty, except in the medullary rays where a small quantity of starch in small grains was present,

3. Spur and branches, All parts of this system were in better condition than No. 2. The branches were dead at the extremitieonly; the bark all through showed an average amount of lungus on the surface. Under the microscope the fungus growth was seen to be more plentiful, a small proportion of the cells of the bark were filled with brown deposit, and except for this the bark seemed free from disease; the woody tissues appeared sound, but were throughout the system quite empty.

4. Small spur and branches. throughout showed much cleaner bark, very little deposit was present in the cells of the bark, otherwise they were quite empty. In the woody tissues there was no signs of d. cay, but the cells were almost empty, only a very little starch present, and the cell walls were thinner than usual.

5. Small branches very clean-looking throughout its length. Cells of all the tissues thicker-walled than in previous specimens; very small amount of deposit in the bark, and more starch and in larger grains in the medallary rays as well as in the remainder of the wood,

6. A single branch decayed more or less throughout its length; the bark very darkcolored internally. This branch had evidently attained almost its full growth before decay set in. All the cells were empty except in the medullary rays, where there was a small amonut of brown deposit. The leaves being very much discolored and brittle could not be examine a so closely, but it was plain that they had appeared quite like many leaves observed on affected Mission vines, though the particohr decay and carling over of the edge could not be plainly seen.

Both on discolored patches and over the general surface were numerous black pustales, quite like those found on I aves from aff etcd Museat vines described in the last

The features noted above are quite the same as have been found on specimens taken from affected vines in the son herupart of the State, and there can be little doubt, if any, that in each case the damage is attributable to the same disease.

ETHELBERT DOWLEN.

December 31, 1888.

THE PRODUCT Of California raisins in the year 1873, to, and including the year 1885,

IS HE IUNIUWE.			
	Вохен.	1	Ruxus.
IS73	6,000	1551	DUUJUE
1574	9,000	18821	15,111
1975	11,000	1883	000
1576	19,000	1551	55,000
1577	32,000	1885	11,000
1875	15,000	1886	13,000
1879	65,000	1557 5	10,000
1880	75.000	1 -55 9	15.000

#### CALIFORNIA RAISINS

#### The Year Payorable to Both Packers and Producers

915,000 boxes distributed as follows: 

The Allo in summing up the situation says. The raisin campaign of 1888, has, as a whole, been a very favorable one to both producers and pack rs. During most of the drying senson the weather was most propitions, which enabled the growers to deliver their raisins in sweat-boxes in a proper condition for packing. The outturn, however, was not as large as estimated earlier in the scason. The Malagacrop of raisins this year was also short and likewise rain-damaged, which necessarily caused light shipments to New York from Spain, and the California raisin consequently reaped the hencht. The quality of many of the packs of California raisins, we are pleased to stare, shows a great improvement on former years. In fact, some of the best-known brands were equal and sold fully up to the price of the very best Malaga in New York and other Eastern markets. There is and can be no question now that the California raisin has come to stay; and as the writer of this article predieted a number of years ago, the time is now rapidly approaching when the Malaga raism will be almost, if not entirely, driven from the American markets.

Fresno is now the great raisin-producing section of the State, and as usual, heads the list in point of production. The Fresno section, on account of its climate and freedom from frogs, is also about a month earli r than most other sections of the State. This industry at that point is developing year by year wond rfully; and Fresno raisins, which a few years ago were nukuown, are to-day in demand in the various markets of the United States. This year is also notable as having made the first shipment of raisins to Europe, the goods having been sold to Loadon, England. While the quantity was small, it was an opening wedg , and business is likely to increase there from now on. The question is sometimes prooted that the raisin industry of California might be everdone. We do not think so. The fact of the case is that the more the production increases, the greater the demand seems to be. It is not a very long while since raisins w re looked npon in the light of a very great luxury, and were only used by the rich; but to-day they are being more universally used; and the consumption is steadily increasing year by year, as the price, of necessity naturally becomes cheaper. Now, that all firstclass Jacked raisius in California are well established in the Lastern markets, it is to be hoped that our packers the coming year will not pursue the senseless policy which seems to have guided them, to a large exteut, in the past, but will hold their goods, which equal the Malaga, at a price that is equal to the Malaga, and not anywhere from 10 to 19 per cent, under the figures obthined for the Spanish product. There is no reason now, whatever, for doing this. California raisiu is equal or superior to finally result in.

anything that now comes from Spain; and when our packer a diz this, and d man l for their goods an equal price for an equal quality, they will get it, but just as long as they throw their goods away and climb The product of 1888, is estimated at over the backs of one anoth r to see who can sell the cheapest, just so long will the East rn wholesal jobber go into New York and pay a fancy press for a Malaga Loudon bayer and then offer a reliculously low price for a California London Layer, which in every respect is as good or better. The imitation of f ream wrapp rais being generally discarded, and something more distinctively ( diforman is boing used year by year, which is a very pleasit? fact to note. W. wish, however, that our packers would agree, which we think could easily be done at a motting, to drop outriely the terms Three Crown Lose, or Three Crown London Lay r, and to adopt som thing more distinctively Californian or American, The bulk of the jack of California raisius this year, has principally gone Last, and at the pr s ut time the San Trancisco mark t is almost entirely bire of stock. 1.specially does this apply to London Layers, and of really choic Loose the supply is also innd quate.

The area producing fine raisins, especially in Fresno county, is still very large; and lands can be bought there for this purpose at very reasonable prices. For any man who is thrifty, an I carefully looks after his own business, there can be nothing b tter than a good raisin vin yard. While a fortune cannot be realized and should not be expected, a good raisin vin yar l will pay, if properly handled, a good fair, and even handsome income y ar by year. To m u of moderate means, a vineyard of twenty to forty acres is sufficient for the maintenance in comfort of an ordinary family.

#### SAN FRANCISCO REAL ESTATE

Mag e's Rea! Est to Circ dur says: There were 125 real estate sal s recorded in November, of the total value of \$1,918,505. This record but faintly reveals the active state of the market last mouth. It was, indeed, one of the most active that has occurred for many years. Your or five of the sales alone made lust mouth, and none of them as yet of record, amounted to as much as the total vame of the recorded sales. It would be hard to say, too, where there is most activity, for all sorts of real estate are in fine demand and prices nearly everywhere are going up. On the whole, the individuals seeking homestead lots are still in excess of all other buyers, and that is the most d sirable feature of the market, Never was money in better supply in the hands of mechanics, laborers and people of small means generally. They are going in debt some to buy, but not heavily, and therefore not daug r usly. The record of last month shows, that more money was paid off on account of mortga, s than the total real estate indebte luess amounted to. The growth of the city and its rapid increase in population justify fair real estate advances. Now, if we can only keep off real estate inflation, speculation and gambling, lies, and Peter Faukery, by which buyers are robbed, we will have a good real estate market, without wild advances in prices and subsequent deep depressions and general fall of prices and almost universal loss. L t all have a hand in the profits, There might have been some reason when and not a few non-productive speculators California raisins were first introduced, but made rich at the expense of nearly the that time has now gone by. A first-class whole p of le. This is what booms always

#### ITALIAN VITIGULTURE.

CILTIVATION AND PRODUCTION OF THE VINE, WITH CHARACTER-ISTICS OF WINES.

> [Continued from page 98.] EMILIA.

On all the plains of Emilia the vine is coltivated, and on the hills the cultivation on Irellia is being extended. The plains between Piacenza, the river Po, the Apennines, and Bologna produce large quantities of wins which, although not extraordinary in strength, is very dense in color and rich in body, and is considered by the trade almost a blending wine; and before easy communication was opened up with the Southern provinces, the Venetian and Lombardian wins merchants came here almost exclusively for such wines. White wines, however, are much more extensively onltivated on the hills near Parma and Modena; but many vineyards have been replanted with black grape vines, and the red wines produced are less deeply colored, but more alcoholic, well flavored, and more susceptible of amelioration than those of the plains.

From Bologna towards Ravenna and Forli, large quantities of very cheap common wines may be found. Here the proportion of white grapes increases on the plains until at Logo and Bagoacavallo the cultivation of them is almost exclusive. At Comacchio and other places, where the aoil is composed of the sand thrown up by the river Po, more generous and conservabia products are obtained. On the hills belween Bologna, Rimini and Cattolica, where Emilia terminates, the black and white grapes are both cultivated, and they give wines of more flavor and alcoholic atrength than those of the plains. In the district of Bologna the Negrettino holds the first place; while plantations of the Sangioveae variety increase in Forli, where the wines have a tendency to approach the Tuacan atyle.

Throughout the whole of Emilia the grapes are sold with great facility, which is seldom the case in the Lombardian and Venetian provinces. The wines of the plains of Emilia have for some years past been ready for consumption during the first months of the winter, and from experiments it has been found that if the wines are filtered, they may be consumed still younger.

On the hills near Bertinoro, sweet wines, known as Moscati, are made, and as they are much appreciated by local consumers, they generally fetch high prices; and in order that those who do a large trade in these kinds may make certain of a sufficient quantity of them every year, it will be advisable to purchase them in South Italy, especially in Sardinia, Calabria and Sicily.

The plantations on the hills of Emilia of foreign varietica, na Pinot, Cabernet, Malbec, Sirah, etc., have, for some years past, been continually augmenting. Very notabls is the improvement made in these wines when mixed with small quantities (say from 10 to 20 per cent) of nativa grapes. The plains of this region, being constituted of very rich soil, in some years give such an abundance of fruit, that grapes must, and wines may, be purchased at very low prices, as, up to the present, few have been in the habit of storing the wine in cellars for future years. The composition

of the principal wines of Emilia varies, as is shown by the following table:

sidu nt. 230 us

Acidity Dry Re per mille per co	7.08.5 220.0 6.7.5 20.0 8.12 vario	6.5 . 9
Alcohol A per cent. p		
Wines. Red Wines.	Sanglovese 10 to 13 Lambrace 8 11 to 13 Lambrace 10 to 12 Capillar rossa 7 1 to 10 Comino 6 to 19 Hite Winex 10 to 13	Trehbiano 6 " 81

The average production of wine in each province of Emilia is estimated as follows:

ı		Hectolitre
ı	PiacenzaParma.	344,100
ı	Parma	382,4 0
ı	Reggio Emilia	451,700
ı	Modena	271,300
ı	Ferrara	121,710
ı	Bologna	338,000
İ	Ravenna	275,300
ı	Forli	262,800
ł	Farma Reggio Emilia Modena Ferrara Bologna Ravenna Forli	

Average production for Emilia.... 2,417,200

The average production per head of the	ı
population is as follows:	l
Average	l
production of Wine per head.	ĺ
	l
Litres	ł
Fiorenzuola d'Arda	
Average for the Province of Piacenza152	ŀ
Borgos Donoioo.         144           Borgotaro.         113           Parma         149	
Average for the Province of Parma143	
Guastalla	
Average for the Province Reggio d'Emilia 184	l
Mirandola       181         Modeua       17         Pavullo nel Frigrano       31	
Average for the Province of Modena 97	١
Cento         58           Comacchio         129           Ferrara         35	
Average for the Province of Ferrara 53	١
Bəlogua 69	ı
lmola	ì
Vergato	١
Average for the Province of Bologna 74	١
Faenza113	ł
Lugo	I
Average for the Province of Raveura139	Ì
	I
Cesena         85           Forli         91           Rimini         137	
Average for the Province of Forli	
Average production per head in Emilia112	
Among the merchants and growers of	
commercial importance the following may	

be mentioned: The Società Enologica of Scandiano,

specially for white wines.

Marquis Ferdinando Bevilacqua, Bolonga, Cesare Gurrieri, Castel S. Pietro.

Count Desiderio Pasolini, Iinola.

Fattoria Torlonia, S. Mauro di Romagua. Valli & Gagliardi, Logo.

Uberto Gallett, Lugo.

Count Guarini, Forli.

Sen. Count Achille Rasponi, Savignano. Cacciagnerra Broa., Montiano.

Count Bart. Manzoni Borghese, S. Marino. Eredi Conti Battaglini, Rimini.

THE MARCHES AND UMBRIA.

Perugia on the Mediterranean slope of the Apennines, and the Marches which embrace tl e provincea of Pesaro, Ancona, Macerata and Ascoli on the Adriatic coast, produced in the past almost exclusively white wines; but the cultivation of red varieties, and especially Sangiovese, is now being very greatly extended. Nevertheless, the principal product is still white wine.

The culture of the vine here was until quite recently, almost in every case associated with that of trees, as, owing to the low prices, the cultivators did not feel disposed to adopt any but the cheapert methods. Now, however, the vineyardwith exclusive vine culture are rapidly increasing.

The Upper valley of the Tiber does not produce very strong wines, but what is produced is ready for consumption within : few weeks. The northern slopes and th most clevated parts give very tasteful and light wines. Those produced at a moderate altitude and in favorable situations on th hills, are naturally a little aweet, resem bling Orvieto wine, and after complete fer mentation are sofficiently alcoholic and very similar to those of the Marches.

As a rule the wines of this district are rather light, and that is the reason why it this province and on the borders of th Abbruzzi it was customary, since the tim of the Romana until recently, to concen trate, by cooking, a portion of the must, the admixture of which with the bulk gavthe wine a sofficient body, and enabled it to be kept through the summer. Although still practiced to a small extent in remote parts, this system is now obsolete. For some years past the cultivation of varieties rich in angar has been extended, as it was found that the flavor of the mixed wives was very little appreciated outside the region, and therefore a profitable market could not be found for the surplus pro-

Owing to numerous vineyards being planted on the hills, and the excavation of better cellars and grottoes, the ancient systems have been almost entirely super seded by modern methods, and the vino crudo (which is not mixed with concentrated must) of to-day keeps well and can he exported at moderate prices.

In the figures which follow we give the composition of the wines produced in this region; in these, we, of course, take no notice of exceptional and capricious styles of wines which may be produced in small quantities, but which for various reasons are not likely to be extensively grown:

Dry Residue Per mille, 25 to 28 22 " 32 20 " 26 26 " 26 45 " 70 45 " 70 18 " 25 16 " 25	
Acidity per mile 6.5 to H 7.5 7.1 8.7 6.8 8.9 6.5 6.6	
Alcohol per cent, 195 to 11 85 5 " 10 85 5 " 10 87 12 8 " 10 8 12 13 10 13 10 11 10 10	, ,,,,,,,,
Mines   Alcohol	Common while

THE MARCHEA AND UMBRIA.

The average production of wine in cach province of Marchea and Umbria is:

Резаго	Hectoli
Macerata 48	303,
	484,
Aser li Piceno	

Average production of March & & Umbria 2,454

This production compared with the pe lation of each district gives the follow averages:

pistriets. wine per
Pesaro
('rhino
Average for the Province of Pesaro
Average for the Province of Aurona
Camerino
Average for the Province of Macerata
Aseoli Pireno
Fermo
Average for the Province of Ascoli Piccus
Pathone

Average for the Province of Perugia .....

Average production per head in Marches an Umbria Amongst the leading propri tors in rovince we may mention the followihe most important and recommendabl

Count Zeffirino Faina, Collelungo, Perugia.

Marquis Ugo Spinola, Perugia. Società Enologica, Spoleto. Lamberto Colonna, Amelia. Cav. Giuseppe Bertanzi, Umbertide. Count Engenio, Faina, Orvieto. Dnke Ugo Boncompagai, Foligno. D. Luigi Boncampagoi, Lodovisi, di Castello.

Prince Albani di Caatelbarco, Pesarc Cav. Gaetano Monti, Sinigallia.

Count Aurelio Guglielmi, Balleani and Osimo.

Marquia Luciano Horati, Jesi. Possedimenti della Santa Casa, di Lo Unione Enologica, di Ripatransona As

To be continued.

#### POSTAGE STAMPS.

There are about six thousand diff descriptions of postage stamps in exist The museum of the Berlin post-office contains between four and five thou specimens, of which half are from En and the remainder divided between . Africa, America and Australia. country carries off the palm for al and grotesqueness of artistic design as feriority of execution, we are not told if the collection is faithfully represent the variety of ugliness must be cons able. Some of the stamps, it app bear coats-of-arms, and other emb impartially borrowed from the hea above, the earth beneath, and the w under the earth - stars, eagles, l horses, serpents, railway trains, dolp and other "fearful wild-fowls." are, moreover, the effigies of five Emp eighteen Kiogs, three Queens, one Duke, several inferior titled rulers, many Presidenta. In so many con and nationalities some really attr specimens must have been eladorated if so, it is a pity our anthorities di borrow a hint or two from tha bes anything more bald, monotonous commonplace than the British aeric postage stumps down to the latest cannot be well imagined .- Paper-Mo Journal.

Jan. 4, 1000

#### CALIFORNIA WINES.

#### Heavy Increase in Shipments During the Past Year.

The daily papers of San Francisco have summing up the commercial interests of State, devoted considerable space to the ae indastry. A summary of the statiss furnished, shows that while the producu of the vineyards was not so great as d been expected early in the season, the al yield during the past year was 17,000,-0 gallons, an increase of a million galis over the previous year. At the beginng of the season the vines gave evidence producing a very large yield, and in igust it was estimated that the production ould be 21,000,000 gallons. After that, wever, the State was visited by two ecks of hot weather, followed by rain, ith the result of a diminution of at least ne-fourth of the crop. By counties, the eduction of wines was as follows: Napa, 000,000 gallous; Sonoma, 2,500,000; San-Clara and Santa Cruz, 2,000,000; Alaieda and Contra Costa, 1,500,000; San mquin, 300,000; Fresno, 2,200,000; Los ngeles and south, 3,000,000; Sacramento nd north, 1,500,000; other counties, 1,-00,000. Of this amount, at least 4,000, 00 gallons will be distilled, producing bout 600,000 gallons of brandy. The balnce of 13,000,000 gallons will consist of ry and sweet wines. During the past ear over 7 000,000 gallons have been exorted, and there was a home consumpion of five or six million gallons. It will herefore be seen that there is no over proluction at the present time.

The total shipments of wine, the value of which is approximated at 40 cents a gallon, from this city were 7,170,634 galous, and of brandy 128,135 gallons. The shipments in 1887 were, wine 6,901,771, and brandy 472,152 gallons. The heaviest shipments to one port were to New York, where 3,002,568 gallons of wine and brandy were sent. The shipments to the same place in 1887, amounted to 1,688,227 gallons, In 1887, 258,248 gallons were shipped to foreign ports, while the shipments hat year increased to 398,879 gallons. The shipments from this city by rail and sea have already appeared in the Merchant.

Regarding the condition of the vineyards the Alla remarks, that the planting of wine grapes has been very light during the past two or three years, the large increase in the production of wine, which so many have predicted will not occur. With the vines now planted and in bearing, a very large erop in a favorable year would be 25,000, 000 gatlons. In all favorable years, with wet seasons, there is always liable to be heavy spring frosts, which cut off the crop considerably in the bay counties. During dry seasons, the vines in the interior counties suffer from sunburn, and the result is that the large crops expected, fall far short. The reason that few wine grapes were planted during the last two years, is due to the low price of fresh grapes and wines. The prices of wine grapes in most counties has averaged from \$8 to \$15 a ton for ordinary kinds, and from \$20 to \$30 for fine varities, such as Cavernates and Sauterno. The prices of low wine of the '87 vintage, were higher in the early part of the season than in the latter part of the year. In January, dealers were paying from 16 to 20 couts a gallen for good wine. In July the ruling quotations ruled from 12 to 15 cents. When it was discovered that the vintage of '88 would not be a heavy one,

prices again arose and dealers are now paying from 18 to 25 cents a gallon for '87 wines.

The past two years have been very hard

ones for viticulturists, owing to the low prices of grapes and wines, but the future looks brighter than it has for some time. The exports are steadily increasing, and as the planting of vines has comparatively stopped, the consumption will soon exceed the production. When that time comes, vine planting will again be commenced in earnest. Many wine growers have been discouraged, and some are pulling up their vines and planting orchards. By those thoroughly posted on the subject, this is considered an injudicious movement, and viticulturists are advised to let their vines remain if they only clear expenses at the present time. The raisin growers, however, have been making handsome profits for the past few years, and the result is that a great many thousand acres of raisin varieties have been planted. Many growers in Fresno and adjoining counties are grafting over wine graps to the Mascat varieties for raisin culture. The table grape industry has flourished for the past two years, owing to the demand for fresh grapes in Eastern States, good shipping grapes bringing from \$30 to \$50 per ton. Owing to the dry season, the table grapes last year were not as large and showy as they were in former times, and the prices realized in the East were not as good as in previous years. Before vintage time, when prices of grapes were very low, the Viticultural Commission advised growers to dry their grapes. Those who followed the advice were well satisfied. A few thousand tons of dried grapes were produced and sold at 21/2 and 33, cents a pound-equal to from \$12 to \$20 a ton for fresh grapes. The Commission will send some of these dried wine grapes to France and England to ascertain their value in those countries, and the prospects of their market. The drying of wine grapes has been so far successful, that it will andoubtedly be carried on to a still greater extent during the present year.

Vine diseases have caused great havee in various sections of the State. Phylloxera is still spreading, particularly in counties where it has existed for a number of years. A new disesse has destroyed thousands of acres of vines in the southern part of the State. This disease has baffled all experts and unless checked, it will not be many years before all the vines in Southern Calitornia are killed. A report of the appearance of this disease in the northern part of the State has not been confirmed. The northern viticulturists, having been warned are anxiously watching for its appearance. The vines killed by these two diseases will greatly exceed the number planted during the past year.

It will be interesting to viticulturists all over the State to know that the Viticultural Commissioners are establishing a wine exchange in Flatt's Hall, on Montgomery street. This will be a place where producers and consumers may meet and where strangers may aample pure California wines. One department will be devoted to brokers, merchants and producers, and there transactions in wholesale lots will be made. All the wine-makers in the State who have wines ready for consumption and the dealers will make an exhibit. The exchange will become the headquarters for all the viticulturists in the State.

Subscribe for the MERCHANT.

### PLANTING TREES FROM CUTTINGS.

The Nebiaska Horticalturist says: A few variaties of forest trees, notably the poplars and willows, ero very easily grown from enttings of the wood, and are commonly propagated in this way. The new wood is used for this purpose—that is, the wood of the previous season's growth. It should be ent in November or December, before any extreme cold weather occurs, and during mild weather when there is no frost in the wood.

Keep fresh by putting it away in sand in the cellar, and work up into cuttings during stormy weather in the winter. They are made by simply cutting the wood with a sharp knife, into sections of about eight inches in length; then pack away in sand or earth, in shallow boxes, so that the upper ends will be exposed to the air. Keep in this way until spring, when the callus forms on the lower end, and they will start more quickly into growth than if cut in spring, just before setting them in the ground.

In planting them out, it is important that the lower ends should have the earth packed tight against them, and to do this successfully it is necessary, if planting them in the nursery, to open a trench by stake and line, or if in the forest to throw out a spadeful of earth at each place where the cuttings are to be inserted. They should be set deep enough so as to cover up the terminal bud.

#### A FIRE EXTINGUISHER.

A correspondent of the Atlanta Constitution writes: An intelligent physician said to me a few days ago, "I think I can give you a good item," and I replied that I was always on the lookout for useful information.

He then said that he had studied the subject very carefully and was convinced that it would be well for every house to keep its own fire extinguisher, and it could be essily done. It would certainly be invaluable to persons living in the country, and far removed even from neighbors. The doctor then told me that he would give me the exact recipe of the solution now used in the fire extinguishers now being offered for sale.

Take twenty pounds of common salt and ten pounds of sal animoniac (muriato of ammonia, to be had of any druggist), and dissolve in seven gallons of water. When dissolved it can be bottled and kept in each room in the house, to be used in an emergency. In case of a fire occurring, one or two bottles should be immediately thrown with force into the burning place so as to break them, and the fire will certainly be extinguished. This is an exceedingly simple process, and certainly worth a trial.

#### PERMENENTION OF CIDER,

There are many different ways of preventing fermentation, but in any case the cider ought to stand in large, open casks, long enough to ferment slightly, so as to cause a considerable scum to rise to the surface, when it may be skimmed off, and also give time for the se liment to settle at the bottom before anything else is done with it. Nothing is more important than to abstract by mitural means the minute particles of pomace that are held in solution by the cider.

A quite effective way of cleansing the show how much Californic cider, and preventing after fermentation, is to scald it just after it has been slightly. Europeans prize so highly.

fermented and settled. To do this it may be drawn off or dipped out of the casks into large copper kettles, or for large quantities an old copper still, holding three or four barrels, will be better. When fire is amplied the heat will cause a large amount of semitorise at once to the tep to be skimme 1 off.

The heating should case as soon as the boiling point is reached, when the edining again placed in clean open cases to stand and settle until it has become entirely old, when it may be drawn into barrels and tightly bunged.

The effect of the sealding, if lone at the right time, is two fold. It quite thoroughly chanses the eider and stops the fermentation at the right point to leave it a sweet and pleasant drink. While the eider thus treated will afterwards taste somewhat of the sealding, it will not be unpleasant to those who like it sweet, and is to be preferred to eider in which the termentation has been are still by mustard seed or chemicals. Chier treated in any of these ways will not afterwards make good vinegar.

Where the quantity of eid r to be made will not justify the expense of casks, the cider may be fermented and settled in barrels, bungs open, by drawing from one to another. -Ex.

#### AN ACCOUNTING DEMANDED,

Frederick H. Hausman, Madsleine Schefter and Jules Lematre, stockholders in the Edge Hill Vineyard Company of St. H. lena, have commenced a suit against Ernest Drichman, Wim. H. Grattan Georg. J. Buckmall and George Kroeplin, Directors of the Edge Hill Company, for an accounting of the receipts and dislursements of said company. The plaint ffs also ask that a judgment for \$19,609 in favor of Kroeplin he declared to be in trust by him for the corporation. They all gethat 2905 shares of the stock of the corporation issued to Drichman were issued in fraudupon the other stockholders.

Another averment is that a note for \$15,000, executed by defendant Grattan to Driehman, is a fraud on the corporation, and the result of a conspiracy. The plaintiffs ask that a meeting of the stockholders be called to elect a Board of Directors, and that they have judgment against Driehman, Grattan, Bucknell and Kroeplin for \$30,810.

#### CALIFORNIA OLIVIS.

At a meeting of the State Horticultural Society in San Francisco yesterday, attention was called to a display of olives from John Rock's Nursery, on the Milpitas road, near this city.

There were shown special us of the Macrocarpa, the true Picholine, the l'varia, the Regalis (or Queen), the first that has ever been fruited in the United States, the Pandolier, the Columbella, the Mission and Manzanilla. The Picholine shown was the largest Professor Hilgard had ever seen, and he said that if that was the true fruit of the variety, he would withdraw all the objections he had ever made to the olive. He pointed out the Manzanilla, apparently larger than the Mission and expressed confidence in excellence. The Regalis or Queen is by far the largest olive over fruited in this State. It is twice the size of the average Mission and symmetrieally egg shaped. The specimens were carefully examined. The exhibition served to show how much California horticulturists have to lears of the wonderful fruit that



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#### FRIDAY.....JANUARY 4, 1889

Ix a letter to Mr. Denicke of Fresno, a copy of which is reproduced in this issue of THE MEACHANT, M. J. DeBarth Shorb advises caution in exercising a hasty judgment in diagnosing outbreaks of disesse similar in character to that now prevalent in the vineyards of Los Augeles. As the writer observes, while at present the trouble is involved in apparently impenetrable mystery, it must eventually large dealings have been reported from give up its secret, and then, a propen remedy will be forthcoming. There is nothing to be gained in this case by jumping at hasty conclusions, and the vineyardist can rest easy in the knowledge that the Viticultural Commission and its agent are using every means in their power to discover the cause of the plague, and to stamp it out.

THE TRAVELING exposition of California products is attracting much interest in its progress Eastward. All along the ronte, people await its coming, and express much surprise at the novel display amid snrroundings of snow and ice. The passing glimpse of mid-summer in the depths of winter, suggests a pleasing day-dream of an earthly paredise, which will andoubtedly start many on a journey West for the much to the desired goal. The officers of the State Board of Trade are to be congratulated in an enterprise which will nndoubtedly result in much benefit to the States

On and efter the first of the year, our valuable Eastern contemporary, the Vineyardist, will appear with a change of makeup and form. The paper will be enlarged to the extent of eight additional columns, and will be conducted as a grape, fruit and wine journal. We are pleased to see this sign of prosperity in a paper which has at all times been carefully edited in the interests of grepe-growers, and trust that in the future as in the past, it will become the liberal support of all identified with the various branches of the industry.

THE WINE Exchange will open about the middle of the month. The interior fittings which are nearly finished, are elegantly adapted for the convenience of visitors and exhibitors.

THE FOLLOWING summary of the latest information received from the winc-growing districts of Europe is obtained from Bonfort's Circular :

This year's Portuguese vintage is inferior in the south of the Kingdom to that of 1887, both in color and alcoholic strength, owing to the terrible disesses that have visited our vines and, to some extent, to the incessant rains that preceded the gathering of the grapes, as well as to the unprepitions climatic conditions during its progress. The wine is light and lacks character. There are exceptions, however, some vineyards having been better taken care of, and the vine diseases persistently battled against as soon as they appeared. The wine there obtained is in consequence relatively good and sells at a correspondingly

The Italian Government vintage report reads as follows: "The yield was bonntiful in Tuscany, in the marshes and Umbria; slightly below the average in Liguria and the Venetian and Neapolitan regions; small in Sieily, Emilia and Piedmont, and smaller still in Lombardy. The quality is generally merchantable. The total product falls little short of 30,000,000 hectolitres, and therefore constitutes but six sevenths of an average crop."

The amount of wine harvested all over the Spanish Peninsula this year is large, it is true, but thoroughly satisfactory; darkcolored wines are scarce, and there will be a large demand for them during the campaign. They are pretty sure to rule high after a while, certainly much higher than at present, in anticipation of which both Aragon and the Rinja in wines of the class named.

Advices from nearly all the German wineproducing districts indicate that the result of the vintage is ansatisfactory, both as regards the size and the quality of the yield. At the same time the stock of merchantable wines of former vintages is reduced, a fact which prevents business in domestic growths at the comparatively high rates at which such wines are held

In point of size this year's Hungarian vintage falls far below that of 1887, while the quality is not much inferior to it, awing to the uninterraptedly snnny weather during September, fully maturing the grapes.

Proprietors in Algeria are low-spirited, there being no demand except at a notable reduction.

A BILL will be presented to the present Legislature providing for a reduction of State and County taxes on orchards and vineyards throughout California. This is a sensible measure and one it is to be hoped will become a law. It is simply preposterous to assess young plantations as improvements. They are unproductive and, consequently, unprofitable to the planter, who ought certainly to be entitled to some consideration, owing to the additional expense involved in cultivating the trees and vines up to a bearing age, together with the fact that his risks are great, while his profits are doubtful.

According to geographical computations the minimum age of the earth since the formations of the primitive soils is 21,000. 000 years, allowing 6,700,000 years for the primordial formation, 6,400,000 years for the primary age, 2,300,000 years for the secondary age, 400,000 years for the terance of men apon the globe,

#### THE VINE DISEASE,

#### Vineyardists Requested to Report Any Appearance in Their District,

Sin:-The widespread damage done to vineyards in the southern part of California by the disease pronounced peculiar to that section has alarmed all graps-growers to the danger of its becoming general throughout the State. I am, therefore, instructed to justitute a special inquiry to determine if possible all localiti a and counties wherein the disease has made its appearance.

Commissioner J. De Barth Shorb has been appointed a special committee to investigate the disease in southern California, and under his direction a noted scientist and specialist, Prof. E. Dowlen, has been employed to identify the disease if possible, and to report to this Board on its nature and extent. This study is being earnestly prosecuted at present at San Gabriel, where a conservatory has been erected to favor the work and make spinmer conditions available for observation throughout the winter and spring.

We are at present unable to specify the cause of the dying out of the vines, but the presence of the disease elsewhere may be indicated by a comparison of specimens with those vines already observed as suffering or dead.

You are, therefore, requested to report to me as early as possible anything in the nature of disease similar to the following described, and, if possible, you will please forward by express one of the diseased vines or the canes cut from such vines. These to be used for microscopic examination and comparison with similar speci mens from vineyards known to be suffering from the malady.

The presence of the evil is most commonly characterized by a general turning yellow and dropping off of the leaves of the vines in the spring after they have acquired a growth of from one to three feet, In this manner groups of vines, or vines in spots, throughout the vineyard succumb without apparent cause, the root continuing fresh and sappy after the upper part is dead. Other vines dying from the same cause may appear healthy and vigorous antil the berries are well-formed or halfgrown and the canes then gradually wither back and die from the tops or ends. The roots may continue living till the following spring or even longer, but they finally die

Many have likened the vines dying from this cause to those suffering from the attacks of phylloxera. In fact the stunted growth of the vines is in both cases strikingly similar at some stages of their development. And to those familiar with the attacks of the phylloxera this knowledge may be of assistance in finding the new disease-

Again, the drouth and drying winds of the last summer produced in many places the same apparent results as are to be found in the presence of the new disesse, viz: the early withering and dropping off of the leaves and the drying up of the partly grown fruit This fact renders the work of finding the disease more difficult, and also provides additional opportunity for ite escaping notice.

Any doubtful vines, therefore, should be carefully studied and examined, and if after such examination you are still uncertain, tiary age, and 100,000 since the appear- specimens should be taken and forwarded to this office for identificatiou.

In some places certain varieties have seemed partially resistant-so much so as to induce their owners to believe they were reliably resistant. In general experience, however, no variety has held out satisfactorily, nor even enough so as to warrant the hope of relief from this source.

For some time it was thought that only these vineyards planted on light, sandy soils would go before the disease, but the assumption was incorrect as proved by the recent dying of vines growing on heavy soils. Even the wild vines found in the canyons have succombed in many places.

The work thus far performed by Prof. Dowlen has been of a purely to chinical na. ture, and his reports on the subj ct are, therefore, not included in this circular. If, however, there are any whom this may reach who have facilities for making a mieroscopic examination and study of the specimens they find, I shall be pleased to send them directions for the work and the printed reports of Prof. Dowlen up to the Send all vines or specimens by express

addressed to Viticultural Hall, 216 Montgomery street. Very respectfully,

J. H. WHEELER, Chief Executive Viticultural Officer,

In France it is too early to speak positively of the Burgundies; all that we know is that leading growths have an unobj ctionable flavor and fine color, and that owners found great hopes on them. The yield has been bountiful, and the trade will find a good average quality, suitable for meeting all requirements. Although the yield in the southern vineyards has been large, not much activity has so far been displayed in securing them, the asking price being too high. The vintage in the Champagne has proved a failure, notwithstanding which the new wines were all sold in a couple of days at higher figures than last year.

#### San Francisco, January 1, 1889.

The Bradstreet Mercantile Agency reports 851 failures in the Pacific Coast States and Territories for the year 1888, with assets \$4,611,098, and liabilities 8,-454,233, as compared with 681 for the previons year, with asets \$6,074,171, and liabilities \$18,091,146, which included \$3,985, -259 assets, and \$13,635,469 liabilities for the failures of John Rosenfeld and Wm. Dresbach, grain dealers.

The failures for the past year are divided among the States and Territories as fol-

State.	No.	Assets.	Liabilities.
California	625	\$3,884,411	\$6,979,290
Oregon	144	461,832	976,700
Washington Te	r., 62	237,655	427,143
Nevada	7	8,900	28,450
Arizona Ter	13	17,300	42,650
Total	M51	\$1.611.098	98 454 933

One of the most remarkshle salt formations on the globe is located on the Island Petit Anse, off the southwestern coast of Lonisiana. The deposit is pare crystal salt. There are at least one hundred and fifty acres of nuknown depth, explored ons hundred and forty feet down, and covered with earth from ten to twenty-three feet in depth. On the top of the salt, beneath the earth, have been found the remains of the mastodon, mammoth sloth, horse, tusks and bones, interspersed with Indian relics. Above the salt is a deposit of pink sandstone and a coal formation.

#### DON'T BE BASH.

Mr. M. Denicke, Fresno,

DEAR SIR:-A communication from you un "The grape root disease in some Los Angeles vin yards" appears in the Decemher 21st issue of the San Francisco Mer-

As the information therein conveyed is rather positive in its character, and will doubtless beread by many deeply interested readers, some who unhappily have affected vines and others who fear they will have in the near future, and who may proceed promptly to carry out "the only cure" as suggested in your communication, viz "the thorough uprooting of all infected vines " it has occurred to me that possibly an answer from me through the same jourual, making it thereby as public as possible, so as to reach the largest number of readers, might not be out of place at this time. In fact anything that might induce friction of ideas, which would tend to bring forward statem ints of facts or alleged facts in support of ideas or opinions can only be productive of good.

You start out in your communication by stating " the grape-root disease in some Los Angeles viocyards is called the graperout mould in Europe." If the disease above alluded to is the so-called " graperoot mould of Europe" may I ask by what authority it has been so designatel? What scientist or practical vine-grower has id ontified this disease as the so-called graperoot mould of Europe ?

Infected vin yards in Los Augeles county were visited by Professors F. Lamson Scribner, " Chief of the Section of Vegetable Pathology" of the D partment of Agricultur , and Pi rre Viala, Professor of Viticulture in the National School of Agriculture at Montp dier, France, and neither of these distinguished scientists were able to name the disease or determine its character. Your language would convey the idea that "the grape-root mould" is common to E trope, and I presume is known by that name, or by some other name in the diff rout languages meaning the sam . May 1 ask in what vino district this disman has made its appearance, and what author or scientist especially treats of it, or gives the history of it?

Surely Prof. Viala should know this discase; and is it not curious that he should not have been able to identify it here, if it really exists? You speak of "the mould spores reaching out through the ground for fresh nourishment." The spores of fungi do not travel; the mycelium of the fungus can reach to some distance through the ground by sending out its branching filaments, and these may produce spores at or near their extremities. Certain spores are locomotive to a c rtain extent; i. e., they move for a limited time when in a fluid by means of cilia. For argument sake, how ever, assuming your theory is correct, and that the deadly spores of this disease are lodged in the ground, is it not carious, then, that the roots are not first aff eted. and through them enterinto the circulation of the plant? Microscopic examinations of badly diseased vines in the very last stores of the disease have failed to reveal such abnormal condition as to in any way account for the general decay. Your name for this disease would in itself indicate that it is a disease of the roots and not of the leaves and branches. Nothing in our examination has been seen to at all justify this assumption; but, on the contrary, all

our study points in the direction of the leaves, as the point of attack, and this opinion is shared by nearly all who have given careful study to it.

A publication will shortly be issued by the Viticultural Commission showing what the investigation undertaken by it has revenled so far, and from its careful study any close or careful observer will be able to determine for himself whether his vines are aff-eted by the same disease or not,

Having been charged with the responsibility of this investigation by the State Viticultural Commission, I should be very glad to be assisted in this work by anyone who has any information to impart or facts to disclose. We want all the light obtainable. In conclusion addressing myself to all the people of this State, I would carnestly advise great caution in hasty judg ments or opinious emanating from a want of a thorough knowledge of the facts, and before careful examinations and studies have been made. The disease, whatever it may be, while now presenting apparently an impenetrable mystery, must soon give up its secret, and then the ch mist and laboratory will soon supply the remedy.

Very respectfully yours,

J. DE BARTH SHORB. San Gabriel, Cal., December 26, 1888.

P. S. A gentleman to this county who has suffered very sever-ly from the ravages of this disease, and who has studied it for the past three years in his own vine. yards, has receatly been to Fresno and reports that after an examination made there he is convinced that your vineyards are similarly affected as ours.

If you will send branches of any vines and leaves, even withered ones, of the dis eased vines, and so protected as not to be broken up in transit, we can easily make an examination of the same and r port the

#### WHOLESALE MARKET.

otations given are for large lots to the whole CALIFORNIA RAISINS.

Halves, Quarters and Eighths, 25, 50 and 75 cents higher respectively than whole box prices.

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		CANN	ED GR	PES			

Grapes, Muscat, 25<sub>2</sub> Re. \$ 1 40 c 1 50, Galls, 4 50c

Unstemmed, sks.

#### Sugar Quotations.

California Sugar R fin ry price list dated January 3d; Circle A. Pat Cube, 73 ec. Circle A Crushed, 73 c; Fine Crushed, 73 ce Extra Powdered, 73 6c; Dry Granulated, 7c; Confectioners' Circle A, 67sc; Extra C 57,c; Gold n C, 51/2c; Star Drips Syrep, in bbls , 171/e; hf do, 20e; 5-gall kegs, 25c; 1 gall tius, 35c per gallou.

Price list of the American Sugar R finery dated January 31: Extra Fine Cube, in bbls, 714c; Circls A. Cinsh d. 73 ; Fine Crushed, 73 te; Powdered, 73 se; Extra Fino Powdered, 7%; Dry Granulated, XX 71, e, Dry Granulated, 7e; Confectioners' Circlo A, 67%c; Extra C, 57%c; Golden C, 51%c, American Golden Syrup, in bbls, 20c per

#### THE WINE EXCHANGE

Mr. C. J. Wetwore Secretary of Co Board of State l'iticultural Commissioners

Sin: -I am pleased to notice by the San Francisco Menchast, of November 23d, that a "Wine Exchange" is about to be established in San Francisco. This, I doubt not, on the plan proposed, will prove to be a benefit both to producers and consumers, if sust dued by the best class of wine makers and of wholesale dealers. This plan if well and honestly managed in San Francisco, will lead, I think, to an extension of it to the other large cities of the country. I am sure that if such an exchange, lunch roum included, were established in Boston, and under the control of the San Fraucisco Wine Exchange Association, it would lead to a very great increase here in the use of California wines, and in a very brief time

There are several places in Boston where California wines can be bought, but ther is no place where they can be compared and tested as they can be at the San Francisco "Wine Exchange" By the aid of the café, or lunch room, hundreds of per sons here would soon test California wines who as yet have not even tasted them Besides, the lunch will undoubtedly toud "the better to assist intelligent sampling I hope that an "exchange" on the plan proposed, may soon be established in our large cities on the Atlantic scaboard.

Will it not be well for your wholesale dealers to agree upon a uniform size and style of bottle for the diff rent kinds of

We usually count five bottles to the gal lon, and I think that it will be well to make the bottles of a siz which will enable th dealer to guarantee that each bottle holds one fifth of a gallon or some other definite Yours respectfully, part thereof.

CYRUS WOODMAN. Cambridge, Mass., Dec. 6, 1888.

#### IN PAYOR OF WINE.

DEAR MISS FIELD; -1 believe the cultivation of the grape and the manufacture of pure native wine in our country, would prove the b st practical measure toward a true temperance. The principal reason why temperance measures have failed with us is that the common sense and common conscience of the people will not allow the indiscriminate condemnation of all drucks that contain alcohol. The distinction that actually exists between fermented and distilled liquors must be regarded in all tomperance measures that will prove successful. If cheap native wines could take the place of distilled liquors as a beverage, the cause of temperature would mark its great est advance. I trust the day will come when this change will be achieved.

Yours very traly, HOWARD CROSBY

New York, Dec. 9, 1888.

#### SAN DIEGO'S RAISIN CROP.

The Sun says: San Diego will this y ar establish a record as a raisin-grower. The drying-season is about end d, and the peek has so far grogressed that estimates on the total output can be made with clos ly approximate necuracy. After supplying the local demand there will be a grop of 159 earloads of cured raisins to export from San Diego county, which will give a return of over \$250,000. The figures arrived at are from careful estimates made by the

growers thems lyes, and from figures compited by the rai road managers who have the contracts for carrying the fruit. These figures show El Cajon to be in the lend, with the Escondido district following, and the Upper Sweetwater coming next.

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					Buxes.	Pounds.
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		districts			10,000	200,000

These totals when they become generally known will probably cause some surprise in account of the increase over last year, The increase is explained, however, by the fact that the vines planted one, two and three years ago are just coming into full bearing.

AN IMPORTANT discovery has been made in connection with the vine disease now the subjet of investigation at Los Angeles. During the week a parcel of diseased specimens forwarded from Schoma county. revealed apon examination by Professor Dowlen, the interesting fact, that the feator s are quite the same as have been found on specimens tak n from affected vines in the southern partian of the State, and conclusions arrived at, being that the damag in each case is attributable to the same dis as

Acting upon this information Chief Viti cultural Officer Whoeler has notified vineyardists in all portions of the State and requested them to forward to the office of the Commission in this city for examination samples of any suspicious appearance on th it vin s. The publication in this issue of the MERCHANT of the different reports of Professor Dowlen will prove of invaluable assistance in determining the disease, and any t hureal terms can be easily determin d on application to the office of the VitienItural Commission.

### GRAPES IN PERSIA An intelligent and observing traveler

says: No finer grapes are grown anywhere then in Persia, saying nothing of peaches, apriests, pears, and other fruits. In some sensons they are so plentiful, too, and so heap, that the people feed them to their horses and donkeys. On certain varieties of sweet grapes horses are said to thrivo very well indeed for a while. For severat months in the year they also form one of the staple articles of fund for the poor. Every autumn one meets on the road, whole caravans of donkeys and mules, and sometimes of camels, laden entirely with grap s. They are carrying the grapes from outlying vine yards to the cities for making wine C rtain vineyards, or districts, are cel brated for the excellence of their wine grap s, and the grapes from these particuha vaneyards are sometimes carried to cities distant several days journey. Chol ir grapes grow in vineyards four day's mar h from Shiraz, and are so highly valund for wine making that there is no end of tivacry and intrigue among the Shiraz nold s to obtain them. The grapes are packed in pannier baskets called ludals. Each lodah holds anywhere from 100 to 300 pounds of grapes, two of the lesser size bing a dankey load, and the larger a cam-

Subscribe for the MERCHANT.

#### OUR NATIVE WINE SHIPMENTS BY SEA.

PER P. M. S. S. CO'S STEAMER SAN JUAN, DEC. 22, 1888.

#### TO NEW YORK.

MARKS.	BILLUPERS.	PACKAGES AND CONTENTS.	OALLONS	AYPLE	
E C		17 harrels Wine	3,116	\$300 500 1,600	
G F	B Dreyfus & Co C Schilling & Co	70 harrels Wine.  1 octave Wine.  1 octave Wine.  1 octave Wine.	3,832 28 28 28	900 30 25 25 35	
J R B B	Lenormand Pros	I barrel Wine	99 t	288	
Total amount of Wine. 9,623 \$3,698					

#### TO CENTRAL AMERICA.

	10 CENTIM	n minutes.		1
K O Puntas Arenas	Montealegre & Co	2 kegs Wine	30	\$30
J. R. E. La Libertad	Cabrera, Roma & Co.,	51 kegs Wine	612	152
AM. Corinto	Napa Valley Wine Co.	3 barrels Wine	150	7.1
Ft.	**	7 kegs Wine	70	44
J M N, La Uniou	Eng de Sahla & Co	12 cases Wine		
(1	4.6	1 barrel Wine	51 [ ]	86
F A, Corinto	J Gundlach & Co	1 barrel Wine	47	26
ч	41	I half barrel Wine	26	13
11	44	14 kegs Winc,	70	47
E R, Guatamala	Hellman Bros & Co	20 cases Wine		50
T M. Corinto	John F Wright,	4 kegs Wine	40	26
M D. Acajutla	61	50 cases Wine		211
10	6.6	15 kegs Wine	150	125
J M M, La Libertad	16	12 cases Wine		48
G HC Puntas Arenas	Castle Bros	20 kegs Wine	2:00]	188
P J A, Corinto	B Dreyfus & Co	7 barrels Wine	263 }	
	- 11	50 packages Wine	250 [	530
		·		
Total amount of Wine, 1	2 cases and		1,959	\$2,060

#### TO MEXICO.

E L, Acapulco Reddington & Co. 1 barrel Wine R A, Acapulco J O Meyerink 2 barrels Wino.	42 80	
Total amount of Wine	122	\$154

#### MISCELLANEOUS SHIPMENTS.

DESTINATION.	VESSFL.	Alg.	GALLONS.	VALUE.
Ilonolulu	Wajia Wajia J D Spreckels. Gaelie Cleone	Steamer	1,096 60 6,332	\$272 875 16 2,410
Total	Rosani		7,938	\$3,623 \$6,921
Total Miscellaneous shi	pments	7,98		3,623

### FANCHER CREEK NURSERY. FRESNO, CAL.,

GFFERS AN IMMENSE STOCK OF

# Fruit Trees, Grapevines and Ornamental Trees,

White Adriatio Fig, Ten Tested Varieties of Table Figs, Olives Pomegranates, and also a Fine Collection of Palms, Roses and Oleanders.

A five-pound box of White Adriatic Figs sent by express to any address on receipt of \$1.50. Send for Fall, Catalogue and address all letters to

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Wines treated under the Fraser Electro Magnetic Process, developing New Wines in thirty days, equal to three year's maturing under the old system.

R J. HARRISON, President.

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### SEASON OF 1888.

Have Heavier Beams and Made Stronger Throughout, Than Heretofore.

The Only Steel Beam Gang Walking Plows which will not Clog in Heavy Stubble or Weedy Land.

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Light draft, strong and durable.—M. Murray, Livermore Has given entire satisfaction.—E. H. Farmer, Gilroy, Superior to them all.—A. J. Huff, San Lucas. Easily managed, strong and durable.—H. Carpenter, Suisnn.

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# A. LUSK & CO.

Dealers in and Packers of

Canned Goods, Dried Fruits, A Genuine Fertilizer for Vines, Nuts and Raisins,

Have removed their offices and salesrooms to their new store,

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Propagation of the Vine.

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SECOND EDITION WITH APPENDIX.

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PRICE 25 CENTS

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NITROGENOUS \* SUPERPHOSPHATES,

OF THE-

Mexican Phosphate & Sulphur CO.

Trees, Cereals, &c.

This valuable manure has received the highest testimonials in Northern Enrope, where it has been used for the past two years, and is now offered to the Pacific Coast Grower with perfect confidence in its

Full particulars can be had at the office of the undersigned, and pamphlets mailed to address on application.

For Sale by

### M. Newhall & Co. ACENTS.

309 & 311 Sansome St., San Francisco.

THE MERCHANT is the only viticultural paper in the State.

### OLIVE RANCH OF 448 ACRES,

Or 210 acres in one place and 208 in the other. Sold together or apart, having 11,000 olives planted, and commence to ings, agricultural tools, horses, etc. Sixty tion. Several never failing springs and tons of hay and plenty of grain; fine stream of water. Title perfect. Situated in Santa Barbara county, near Los Olives depot. Will sell at a bargain.

For particulars apply to

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### FARM FOR SALE.

Two hundred acres in Souema County, ten minutes drive from railroad station, Forty acros planted in the finest variety of vines. The balance rich river bottom, and bear in 1887. Fully equipp d with build- rolling land capable of the highest cultivaplenty of oak and redwood timber on the property. Good honse, large barn, and out buildings. Scenery, climate and roads unexcelled. Good fishing and hunting in the neighborhood all the year round. One f the most elegant and profitable suburban homes in Northern California,

Inquire of "W. H.," office of the San CAL. Francisco MERCHANT.

INCORPORATED ISSI.

460 ACRES.

JANU JANU

# TREES AND PLANTS. CALIFORNIA NURSERY CO,

NILES, ALAMEDA COUNTY, CAL.

### LARGEST STOCK ON THE PACIFIC COAST

Fruit Trees, Olives, Oranges and Lemons, Nut Trees, Wine and Table Grapes, Berry Plants, Shade Trees, Evergreens, Shrubs, Roses, Etc., Etc., Etc.

FOR COMPLETELLIST, SEND FOR OUR NEW CATALOGUE.

JOHN ROCK, Manager. - -CALIFORNIA NURSERY CO. Niles, Alameda County, Cal.

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Gopher and Squirrel Exterminator IN I-LB. AND 5-LB CANS

By Ordering Your Greceries

Largest and Cheapest Cash Grocers on the Pacific Coast.

ALL COODS PACKED AND SHIPPED FREE.

Send your address and have their Monthly Price List mailed, regularly to you. AW SEND A THIAL ORDER, WAS

#### CLUFF BROS.

9 & 11 Montgomery Av, 40 & 42 Fourth Street, 109 & 411 Montgomery Av 401 Hayes Street,

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## L. G. SRESOVICH & CO.,

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DESICCATED COCOANUT, Manufacturing every day. Ask your Grocer for Pioneer brand. It is the hest and cheapest in the world. Medals awarded in all Fairs where exhibited.

California's Million Dollar Company:



#### OF SAN FRANCISCO, CAL

		CA	PITAL.	ASSETS.
ARY	1,	1875\$	300,000	\$ 747,188 45
ARY	1,	1880	750,000	1,160,017 00
ARY	1,	1888	1,000,000	2,181,925 18

Losses Paid in Twenty-five Years, \$7,500,000 00.

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We will offer a full line of other Crccers' articles shortly.

### 300,000 FRUIT TREES.

We offer for the season of 1888 9 a large and very complete assortment of FRUIT TREES grown absolutely without irrigation.

Also Ornamental and Shade Trees, Nut Trees, Oracke and Lemon Trees, Small Fruits, Grape Vine Evergreens, Hodge Plants, S. rul s. Reses, Bu s. See s. etc., etc.

LARGE STOCK OF OLIVE TREES, ALL SIZES.

SAN FRANCISCO,

JAPANESE TREES AND SHRUBS IN GREAT VARIETY,

Correspondence Respectfully Sulicited,

## TRUMBULL & BEEBE,

419-421 Sansome Street,

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SUBSCRIBE FOR THE SAN FRANCISCO MERCHANT

#### A DARK SIDE OF LIFE.

The following vivid pen picture of the sad conditions of life, which through miserable urroundings, breed and foster the darkest rimes, is reproduced from a recent issue of the Sydney (N. S. W.) Bulletin:

Had the victims of the Whitechapel murlers belonged to the superior classes the whole resources of England would have een pledged to avenge them. As it is, as hey belonged to that great army of starvaion which seeks in daily infamy the means t daily bread, the Home Office is tranquilly passive and the Treasury is quietly inacessible. The city police anthorities are roused and the people of the metropolis re indiguant; but Government, always Conservative in administration, 'no matter who may be in office, sees no reason for ction. Yet in the bare fact that such lives re possible, lies an indictment which hould make the official world tremble and ffright the superior people officialism repesents. For these outcast women who ave been slanghtered in the purlieus of a ily of palaces, are not the only sacrifices London's greatness. Her growth is nanured with the blood of the wretched, nd the roots of her prosperity are mulched rith crushed humanity. Officialism tries trample misery out of sight, and wealth evotes to the attempt to hide it much of he means which should be used for its lleviation. There is a conspiracy to keep invisible, which few travelers penetrate nd many residents never suspect. Guard d gates and portly beadles shut it from he squares, and the police, with a continual move on," chevy it from the highways, nd well-paid sentries beat it back when attempts to excite sympathy and implore ssistance. When you, the Australian visior to London, turn into one of Spiers and 'ond's big London restaurants, do you ever ness why those gigantic servants stand in very at the door? They are to prevent he famiue-struck beggars from be seeching our well-fed Lordship to give him a penny hen you contemplate reviving yourself ith a meal; to drive him off when he tries peer through the plateglass at your plenr, lest his wolfish eyes and famished face hould spoil your appetite and limit your xpenditure. Do you know why lofty gates uclose the squares and streets and terraces ant call the Duke of B dford owner; that elong to the famous Sir Henry Doughty ichborne, to Lord Portman or the Dake f Portland? It is to keep the scores of azarus from the sight of Dives that those ates arise. Did you over wonder why the urdy policemen breaks his stately gait ow and then to dodge and dash after the at-like ragamuffians that scaffle and scattle way down by-ways and back lanes at his pproach? It is to keep them out of sight, nat's all; to drive them to such a distance nat their rags shall not come between the ind and your nobility. There are a quarer of a million of panpers in London in hom the official dole barely keeps the reath of life alive. There are 300,000 peole out of work in Loudon who never know here their next meal will come from, nor there they will lay their heads at night. here are two millions of men, women and hildren in London whose utmost struggles arely buy them food enough to keep them f continual starvation from death by amine outright. Upon this great subtructure of misery are found, d the fortunes nanufacturers engineered by sweaters; and trict, Hautvillers, most famous of all. He 572, and in 1887, 17,091,564. The area is no one who cannot read and write.

from beneath this substructure is squeezed the haman refuse upon which the Whitechapel murderer or murderers have played on that border line which separates a life their ferocious tricks. These were not gilded Traviatas, splendid in velvet and shining with jewels. No! The last poor, murdered wreich was identified by the pawn-ticket of her protector's undershirt found upon her person. He, poor brute, had pawned his boots to buy the last meal they had shared together, and she had sallied out to seek in sin the means of their next repast. In sin! Whose is the sin? Is it the sin of poverty clutching at existence, or of wealth living by the premeditated creation of misery? As the Faubourg St. Germain emptied itself upon Versailles so, some day will horrible London empty itself upon the West End. Then, when fair women find scant mercy, and gentle heads are bowed in blood, some daughter of the people will speak in the vengeful spirit of Ther se Defarge:-"We have seen these things done to our women, we mothers and wives and sisters of the poor, and no one heeded our misery. Why should not your women suffer, and why should we head your downfall? What is your wretchedness more than ours?"

#### A POINT FOR ORCHARDISTS.

The New York Tribune suggests, that when making a personal examination of your fruit trees and orchards, the ends of the shoots over the top of the tree should be carefully inspected, for the purpose of ascertaining its condition. If you fied a season's new growth is less than six inches on a bearing tree, or less than twelve inches on a young tree not in bearing, you may at once arrive at the conclusion that the tree or trees, need more and better cultivation. If tall grass, or rank plants or weeds have been allowed to grow within the sweep of its branches, or even two or three feet beyoud, the cutire suppression of these will in most cases prove sufficient. If no such growth interferes, your soil needs mannre. You may find that there is some injury to the collar or stem which impedes circulation, if so, the above measures will be of no avail. Under ordinary circumstances such a tree is dorm.d uales; there is some strong sprout direct from the roots which can be formed into a new stem for a new tree. It must be said in this connection that over-vigorous growth, or growth continued so late as not to tally ripen before the frost comes, if your section is subject to frost, is a danger and should be guarded against. Cultivation should begin with growth, and be discontinued in August or early September. Fertilizers or manures, which are very beneficial, should be applied in the fall or winter.

#### THE DISCOVERY OF CHAMPAGNE.

The discovery of champagne wine is said to be due to a Benedictine monk named Periguon. In the year 1668 he was made cellarer, and, in pursning the duties of his -position, he hit upon the idea of 'marrying' the different wines produced in the vineyards around him. One sort he had noticed imparted fragrance, another generosity, and the blackest grapes were found to produce a white wine that kept good, instead of turning yellow and degenerating, as did the wine made from white grapes. This white or gray wine of Champagne be-I free trade commerce and unprotected came famous, and the wine from his dis-

was also the discoverer of the fact that the old stopper, a piece of flax dipped in oil, could be advantageously replaced by a piece of cork. By dint of experiment after experiment, he finally evolved the effervescing wine that was far pleasanter to the taste and far more exhibarating than the old-style still wine. The King gave the seal of his royal approval to the new discovery, and the courtiers were not far behind in recognizing the virtues of the new

The Marquis de Sillery at a souper d'Anet introduced the wine into the court circle. "The flower-wreathed bottles which, at a given signal, a dozen blooming damsels, draped in the guise of Bacchanals, placed upon the table, were hailed with rapture, and thenceforth sparkling wine was an indispensable adjunct to all the petits soapers of the period."

#### ANCIENT ORANGE TREES.

There is still flourishing in the porch of the convent of Santa Sabiua, in Rome, an orange tree that is said to have been planted, A. D. 1200. Another, in the monastery of Tondi, is supposed to have been planted by St. Thomas Aquinas in 1278. In the Moorish Aleazar of Seville, Spain, exists one that was planted during the reign of Pedro I., between 1150 and 1266. Others known to be 340 years old, have a height of fifty feet, with trunks five feet in circumference. Age is not, however, indicated by size, as in Andalusia, there are many younger, that are considerably larger than these. In Alcala de Guadeira are two, the tranks of which at four feet above the ground, are respectively seven and eight feet in circumference. The yield of some orange trees in Malta and Naples is simply astounding, reaching as high as 30,000 oranges to the tree, and on the estate known as the Hnerta Grande, in Mairens del Alcor, there are two that are said to have borne 38,000 oranges each in a season-

#### ITALIAN EMIGRATION.

The Anglo American Times says: "Many writers treating the subj ct of Italian emigration, assume that it presents quite abnormal proportions. There is nothing to justify this assumption. When the Kingdom o. I aly was definitely constituted in 1861, without the territory around the City of Rome, the population amounted, according to the Almanach de Gotha, to 21,728,-529. The same anthority gives the number of persons then actually under the dominion of the Pope as 690,000; so that the people of Italy numbered, in that year, all told, 22,418, 529. The total area of the kingdom is 114,410 square miles. Emigration began to assume noticeable proportions about the year 1875, and the total number of emigrants registered in the thirteen years, 1875-1887, was 1,708,435. Of these, 800,-000, or nearly half, passed into European countries, the rest going beyond sea. In 1871 the population of the kingdom was found to be 26,801,154. In 1881 it had increased to 23,459,628, and at the end of 1886 it mounted to 29,943,607. The average yearly emigration, therefore, was less than half the natural increase in population, for it must be remembered that there is no immigration into Italy. How do these figures compare with those for Great Britain and Ireland? The population of the United kingdom was, in 1878, 33,730,-

120,832 square miles. For the ten years, 1878-1887, the number of emigrants from Great Britain and Ireland was 3,095,868, or only 355,000 less than the whole registered increase of population for the same period. This apparently stationary condidition is partly explained by the fact that there is a steady reduction in Ireland, amounting, in the ten years, to more than 400,000 persons; but the evidence is overwhelming that the emigration from the United kingdom is not only actually, but relatively, vastly greater than that from Italy. The British population increased at the rate of 330,000 a year; the Italiau, for the ten years, 1871-1881, at the rate of 165,000, and for the five years, 1882-1886, at the rate of 296,000 a year. So far as a growing population implies national vitality, Italy is surely holding her ground."

#### LIVERMORE WINES.

Clarence J. Wetmore, who has made considerable inquiry among our wine makers, estimates the amount of wine made in the Livermore District, this season, at 500,000 gallous. This amount, he states, is nearly double that of last senson's product, which he places below 300,000 gallons. Mr. Wetmore's figures would give a crop of about 4,000 tons of grapes-just about the estimate made before the hot spell, which did so much injury to folinge and fruit. At twenty cents a gallon, this wine would be worth \$100,000. It is probable that it will bring an average of that price.

#### AN OPOSSIM FARM IN FRESNO.

The Merced Express is anthority for the statement that Fresno is to have an opossum farm. Jessie Irwin, a prominent citizen of that place, has just returned from Pike county, Mo., with a carload of these animals. The ranch is to be fenced in with an old fashioned rail fence, covered with the gourd vine, and each piece of the fence is to have a hollow log. He is going to plant twenty acres to persimmons and the same number of acres to blackhawks, and his sweet potato patch will be the largest in Fresno county. In due course of time are expected encouraging reports from Mr. Irwin's enterprise.

#### TAR WATER.

It is claimed that tar-water is a cheap and effective remedy for insect pests. It is prepared by placing a quart or two of coal tar in a tub or barrel, and then filling up with water. In about 48 hours the water will small strong of tar, when it may be dipped off and applied to plants with a syringe or common watering pot. It will not kill the larvæ of the potato beetle as has been claimed, neither will it prevent the females from laying their eggs on the leaves. It has no appreciable effect on squash bugs, nor the larvæ of the imported elm tree lenfbeetle, but it is death to the cabbage butter! fly, (Pieris rapae.)

STATISTICS collected in Germany, show that in Roumania, Servia and Russia about 80 per cent of the inhabitants are unable to read and write; in Spain, 63 per cent; Italy, 48 per cent; Hungary, 43 per cent; Austria, 39 per cent; Ireland, 21 per cent; France and Belgium, 15 per cent; England, 13 per cent; Holland, 10 per cent; United States (white population), 8 per cent; Scotand, 7 per cent; Switzerland, 2.5 per cent; and in the whole German Empire, 1 per cent; while in Sweden, Denmark, Bavaria, Baden and Wurtemburg there is practically

#### THE RIGHT AGE FOR WINES

"It's a pity to-day is so mindly; it knocks the bottlers out of several days' work and puts me back a wak in my Chianti tra le.

A heavy wine importer was explaining t a chance visitor some of the difficulties in

"You can't bottle red wine on a day like this," he said. "When it rains, and the lenm I sin seems to be going, as did the day is raw and cold, the delicate wine feels as uncomfortable as those who drink it. White wine is not so sensitive. R d wine, in the wood, is as susceptible to the weather as men and wom n. If you wer t g down into my cellar you would find that the casks of red wine are middly and filed with sediment. If the wine were bettled in this condition it would never become clear.'

"After it is bottled does the wather affect it?"

"Not at all. When it is bermetic fly sealed the weather has no more influence over it. There is one mor interesting thing about wines that not one man out of a hundred who drinks wine knows apything about, that is the length of time wine will keep before it attains its prime. It is a law of nature that everything must in time grow old and senile. Wind is not exempt from this law. It is a mistaken idea that wine kept in the wood grows better for an ind firite period. It is true that a cask of wine may be kept for vor and never lose its flavor. But it will not be the same wine long. The cask must have new wine pour d into it at certain intervals to supply the waste by ev poration. This may be continued as long as the patience of the owner holds out."

"When wine is bottled, howev r," continned the importer, "this refilling must cease, and then, in a certain length of time, it reaches its prime, after which point it deteriorat s. Let me give you some facts. Champagne reaches its best flavor one year after it is bottled. From that time on, it loses what it has gained. Chianti, in dasks is best twelve years after bottling. same is true of still L'Agrima Christi. Vino Alleatico takes longer to mature. " It dies not reach its prime before twenty years The general run of French clarets attain perfection in twelve years. The same age is required by California still wines. Bur gundy vintages take sixteen years, and Hungarian wines twenty. The latter figure is the age of maturity with port, sherry, Marsala and Madeira. Alkinds of brandy, whiskey, gin and rum, take forty years to attain their full ripeness and flavor. When you hear of a man who claims that he drapk a glass of sherry forty years old that was better than any of a lesser age, even bettled, you may put him down as more of a councissent in cobwebs and dust than he is in wine. Age is a good thing to venerate," added the importer, shaking his gmy locks, "and I am the last man to tart an iconoclastic movement in that direction, but in wines one may easily carry it to an extent that his palate would not be apt read: ly to forgive." - New York Mail and Ex-DESS.

#### OIL TIELDS ISED IP.

The great oil fields of Pennsylvania are being rapidly exhausted, writes a St. Lo is Globe correspondent from Bradford, Pa. This fact is now very apparent to practical nil operators, and extraordinary off ris are being made to find new fields, but the best Informed men engaged in the industry are

n t hopeful of the results. At the present time 500 wells are being drilled in the efforts to discover a new and proific field. This we is are being drilled in Pennsylva-Lin, N w Y rk and West Virginia, and in many metanes the territory has already b en partially tested, and the chances of opening up a really new field are r g rd-d as exe diugly rem te. The great petrorich C meteck lede. The daily preduction of the Pennsylvania and New York fields has fall n from 100,000 barrels a day, the n ximum to 13,000 barrels. In the 40 figores the Ohio fild is n t consiler d, as Ohio oil is now regarded only as fact oil, and therefore does not come into competition with the Pernsylvania product. In Poursylvania and New York 60,000 well's hav been drill d. Of this number about (d) was were producive and the rest dry. These wells have enhancted hundreds of th usar is of acres of t rritory. The wou-I rful Bralfor 1 fi 11, that produced 140,or of the burnels of oil is now practically drained. Wells are no longer drilled in this fi ld, and the only production h re is from the old wells, very few of which yield over oue barrel a day. Thousands of wells in the Bralf rd region have been entirely aban l d, the toling and casing pulled ont of them, and the wheels plugg 1. The benanza fi lds along Oil Creek, that once astonished the world are dry, or nearly so, Where wills were found that produced th usands of barrels a day, a well that will yield five barrels a day is now considered a good one, while thousands of acres of this old territory is absolutely worthless for oil purposes, and is being slowly reclaimed for agricultural purposes. Clarion county is now considered exhausted, except the limited pool at the country seat, which is now yielding about 1,000 barrels a day. Butler and Armstrong counti s have produced in the neighborhood of 80,000,000 barrels of oil, and the drill can find but little more. The probabilities of finding another oil field have been greatly lessened by the universal explorations that have been made for natnral gas. There are f. w important towns in th W at that have not drilled from one to four wells in the hope of finding gas, and each of these wells, whether it found gus or n t, his condemned the territory for nil. If n ne of the 500 wells now drilling find a rich spet, it wil then become a serious question with oil drillers where they shall turn to find the product so much sought after as an illuminant.

#### A SECNE PARM.

Mr. Clark, residing in the town of Leicest r, West New York, has a new and novel enterprise in the shape of a skunk About one acre is inclosed with a light board fence, and in this enclosure at the present time are over three hunared skanks, which, when the sun is out, look like an army of young kittens, their glossy, black coats shiuing like the purest fur Mr. Clark has dog trenches in which the animals have carried nearly a ton of hay and mad nests, raised young which averag fr m nine to eleven a litter. Mr. Clark raises the skunks for their for and oil, and there is money in the transaction, as there is only the expense of land and lence to com out, the animals feeding on old dead she p. horses, cows, apples, potato parings and refuse from slaughter-houses

Subscribe for the MERCHANT.

#### BELT SIGAR

The Papar aim giv s the following intersting discription of h with y make b t sugar at Wate pri When the beets are dumped into the bins they pass from the former and are ready to start on their way to sugar lem. B neath each hin is a coucrete ditch, and into this ditch the beets fall through adj stable traps. A stream of water is constantly it wing through the ditches in the direction of the factory, an it tak sithe beets to the south and of the main building and on pties them into a cisteru, in which is working a large ser- wo that rtends to the s coul floor. This ser-w my ties the beets into a hopper on the secand floor, from which they pass into a loge drum-sh ped iron cylinder, called th "wash-barrel," where the beets are th toughly cleaned. When cleaned they are thrown from the "wash barrel" into a hopper from which they pass into an endless elevator, which runs to he top floor, where the beets are discharged into a large h je per. They then pass into a "cage" which will hold 1,000 pounds of beets, and when this weight is indicated the "cage" empties its load into the cutter. The "cage" and its indicator enables the factory people to closely estimate the amount of raw mat r ial used each day in the manufacture of sugar It is also a check on every depart-It will show any error that may arise in the receiving or shipping d partments !

The slicer or cutter is a round iron shaft with steel knives, capable of slicing 4 at tons of beets every twenty-four hours, which runs down to the floor below. The lower end of the slicer opens into a wooden trough about two feet square, on the bottom of which is an endless belt. As the sliced be ts fall from the cutter into this trough, the belt takes them along as fast as they descend. Pl ced on this floor and ranged along-ide the trough is a buttery of twelve diffusion tanks, into which the sliced beets are next passed and diluted under a water pressure of eighty pounds. By this pressure the sugar and salts amounting to 90 per cent, are released in liquil form, leaving only 10 per cent. of pulp to represent all the solid matter coutained in the sugar beet of commerce. From the diffusion tanks, the liquid sugar is then passed into a heater. Each tank is emptied every five minutes. In the heater the liquid is subjected to 75° F. for some time, whom it is again sent onward to the carbonizati n tank, where it is put thr ugh a clarifying process by time and time gas From the carbonization tank it is pumped into the press s, through which it is run three times under tremenduous pressure. every particle of time being retained in the presses, while the liquid sugar is conveyed to the quadruple evaporator, pr bably the heaviest pieces of machinery used in the whole process of sugar making. After going through the evaporation process, it is delivered to the vacuum pans at the top of the building, where it is crystalized. Underneath the vacuum pans are placed very large square receivers, into which it is allowed to fall when crystal zati in has taken place; these receivers have revolving screws which form the bott m, and are kept constantly in motion to keep th. sugar from caking From the receivers it again descends to the centrifugal machine, where it is purg I of the molasses and finally emptied into sacks on the low r floor and I aded ou railroad cars for shipment to the refinery in San Francisco. spires a ton of water every honr.;

This is the process through which the beets pass after they leave the farmer's wag as at the bins. This work is going or each day at the factory and r the able manag ment of Claus Spreckles and Super int adent W. C. Waters. To the latter gentleman much credit is due for the com pletion of this great enterprise; - Paparo

#### FRITT JUICES.

Fruit juices, with just enough sugar it th m to relieve their sharp tartness, sen an h nicer that jelly, with its 50 per cent f sag r. One of ar little girls, who ha fre point bi ions attacks, when her stomacl will bear only certain kinds of food, think so. I heat the terries-raspberries or cur rants-press and strain as I would in mak trg jelly. Bring the juice to a boil, after adding one cup of sugar to three pints of juice. Can the same as berries. Freed o seeds, fruit juices are invaluable in correct ing deringed bowels. They relieve coust pation and check diarrh a. This seems contradicti n, but pers nal observation intifies the statement. A past of red, rip current or raspberry juice, tart, thick s cream, with flavor and son-hine, and free as when swelling the ripe berry on th stem, is just the gift to send an invalid of convalescing friend who is heartily tired her molds of insipid, sweetish jellies. Good Housekeeping.

#### Wine Production in Europe.

The estimate of the average yearly pr luce of wine in the various win -producit countries of Europe is as follows, the figur regres nting h et it re al 12 gallous ene France, 45,000,000; 1t. ly, 27,535,000; Spai 25,0 % (000); Austria Hungary, 14 000,00 Portngal, 4,000,000; Greece, 2,500,00 Germany, 2.130,000; Southern Russi 2,000,000, Switz r and, 1,280 000; Servi 7( ), 6( ); European Turkey, 6(0,00); Ro maois, 33°,335. Thus the total win- pr luced in Europe m y be estimat 1 at 12 1-4,335 beete it.rs. equal to about 2,75. (an), (a) gr lons, which at six bottles to t gallon, is 16,512, wi,000 bottles, or abo 4 doz n bottles I wine to each inhabita of Europe. -S. F. B " Cu

The Hambur ise or Curespe deal give the following tell of far recently served the dinner given in Hamburg to Emper William II:

Schi dkroteusuppe ( F eischsuppe Vorg richt Ganseleber mit Truff In Hammer Ponlar len Salat, Eing-machtes ! Gemuse Ananas Creme Kase, Butter Nuchtisch Hidsick Minopole 1525 r Madeira 884 r Scharzhell rger Aust so 1575 Chateau Poutet Canet (Cruse & fi s freres Iso's r Ranenthaler Berg Anslese, "7ter Chat. Pich n Longueville

Chequat Venve

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Accounting to Richard A. Proctor, scientist, there are twenty-six miles sweat tubes in the body of an ordin man, and an averag theater andience p



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#### HINTS ON GRAPE CLETCHE.

The propagation of the vine, writes an authority, properly belongs to narserymen or those skilled in growing plants. The cuttings may have one or two eyes; in either case they should be set in the ground so that the upper eye is barely above the surface. They should be set out in early spring before the buds commence swelling. They may be set either perpeudienlar or inclined, at from twelve to eighteen inches apart at right angles, and should remain one year in the bed before actting out. In setting out grape vines, thorough preparation of the soil will insure success, while careless methods will be attended with disappointment. Large holes, say three feet in diameter and twelve to fifteen inches deep, should be dug, with the vine set in the middle, and rich soil, in which ashes and leaf mold are well mixed, carefully packed around the roots, which should be so spread that each one will be allowed to do its duty. As soon as the vine begins to grow, rab off all shoots but the strongest and most vigorons. Train this to stake the first year. There are several systems of training vines, viz: to a stake, trellis, or arbor. The stake plan admits of severe pruning, with a strong main vine. What is known as the removal system can be successfully practiced on this plan, which means occasional renewal of the main viue, and allowing a new about near the ground, taking the place of the parent stem. This new wood, it is thought, insures a more vigorous and healthy growth, besides producing larger and finer fruit. The trellis system is run with wires stretched on posts and the vines are trained on the horizontal plan, with arms at first, and from these perpendicular shoots; skillful and regular pruning is required, and if thorough culture is given, satisfactory results will follow. Both plans have their advocates, and succeed alike if entried out. The stake system is well adapted to field culture, where it is couvenicat to plow in two or more directions, while the trellis plan allows of plowing in but one direction. Cultivators differ nonterially in the methods of pruning, and details in this short article would not be posaible; suffice it to say, that on general principles not more than two to four eyes

Age of vine, vigor of growth and variety, have much to do with pruning. Severe pruning is seldom practiced by beginners, who want, as they think, as much fruit as possible. New wood of the present year's growth produces the fruit. Removal of new growth by pinching off, thus restraining, if possible, too much growth of wood, is practiced with good effect during the growing season. Go slow, however, and experiment mationsly. Always avoid cutting off long branches when in full leaf or vigor of growth, as too great a shock to the vine will result from such practice.

#### EXPERIENCE BRINGS WISDOM.

The Livermore Herald says: The experience of the present season has taught our wine growers a number of things. Among others, is the fact that in years of excessive heat and dryness, some varieties of vines will be burned, both leaves and fruit, while others will remain uninjured. The varieti s hurt are in number greatly in the minority, but in quantity planted, they in this valley play a very important part. Those most injured are the Ziufaudel, the three Rieslings, and the Burger. Those somewhat hurt are the Grenache, Follo Blanche (only injured on light, dry soils) Flame Tokay, Black Hamburg, and on dry soils the Muscut and Rose of Peru. Many of the most valuable wine grapes, including uearly all the high types, are uninjured. So are such fine bearers as the Mataro, Carignan, Rose Chasselas, Colombar, Golden Chasselas, Charbono, Malvoisie aud Petit Pinot. Among table varieties we find the Black Morocco to stand the heat best, with the Rose of Peru a good second. If the Malveisie can be ranked as a table grape, it will be placed beside the Morocco. The Black Ferara is but slightly injured, except on very gravelly soil the Rose of Peru is the most vigorous grower and heaviest bearer of all. The Morocco has the largest berry, and seems to be particularly adapted to this valley. It delights in rich, loamy soils. We should study closely the effect of this season upon our varieties of grapes, in order that intelligent grafting may improve our vineyards and enable us to avoid the losses of a season like the present.

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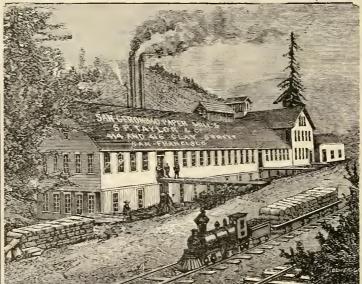
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[Contioned from page 118.] .

Tascany is the most famous region of Italy for Red Tuble Wines, of a kind that are dry and earily digested.

The largest quantity of Tuscan wine is prepared by mixing 7-10 of Sangiovese grapes with 1-10 Cunajolo and 1-10 white Malvasia or Trebbiano grepes; but for wines which it is desired to keep for a long period, an addition of ten per cent. or fifteen per cent. of Bordeanx grapes is recommended, because by doing this, very notable results as to flavor and bouquet are obtained, the wines being similar to those of Bordeaux.

Owing to the fine qualities of the Toacan wines, they were very rapidly diffused as the construction of railways progressed. The system of cultivation was also improved, and to that already prevailing, and known as testucchi, which consists of training the vines on wooden supports in the shape of a cup, large numbers of vines regularly trained and cultivated on trellis work were added. In the fields where the vine culture was associated with that of herbaceons crops, the vine is now trained on double or single espaliers.

Other reasons for the improvement of Tascan wines might be found in the increasing proportion of good varieties of grapes, and in the extension of the vine culture on the hills.

The exportation and consumption of Tuscan wines in flasks has also done much to anhance their credit abroad. An ancient enstom of Tuscany is called the Governo of the wines. This consists in adding to young wine a certain quantity of must, by means of which it is given more body and Irmitiness, making the wine rich in carbonic acid, and therefore more acceptable to local consumers.

The common wines which are soon ready

for consumption are, by the governo, rendered more agreeable and more easily sold This practice is not necessary for the best wines, but in every case where the wines are to be exported in cask, for consumption at an uncertain period, it is advisable to wait until the slight fermentation caused by the governo has entirely ceased.

To-day, Tascany sends considerable quantities of wines for consumption to Rome, Genoa, Turin, Milan, and Bologna, and a large quantity is also exported to foreign countries, where these wines are much appreciated, although the prices, especially those of the best qualities, are rather high,

In 1886, the vintage was so abundant that prices became normal again. In Tuscany, the prices of common wines are more likely to be regular, as the increasing production, especially in the Maremme of strong and high coloured wines which may be used for blending, contributes to render the other wines, which have an excellent flavor, but are too light having been grown in low valleys or at a considerable height, fit for commerce and exporta-

The wines produced on soils of special composition, as on the Islands Elba and Giglio, and from Monte Argentaro near Orbetello, are especially dry, with an aromatic flavor and fine bouquet. In the north of Italy these are noted especially as medicinal wines. The Tuscan Vermouth, which is prepared by many families, is quite different to that of Turin. It has not as yet obtained any commercial importance.

The average praduction of wine in each wines of Thecany is as follows:

6.00			_	-	-	۰	r	_	_	~	_	•	-	,	•	•	•	•	~	•	٦	_	•	•	-	۰								
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Average total production for Tuscany ... 3 060 000 This production compared with the pop-

ulation of each district gives the following

District,	Average production of Wine pe inhabitant.
	Litres
Average for the Province of Lucca	
Piza	17
Volterra	
Average for the Province of Pisa,.	
Leghorn	
Portoferraio	
	_
Average for the Province of Lechury	n 111'

FIOTERICE
Pistoja
Rocca S. Cascino76
S. Miniato
_
Average for the Province of Florence157
Average for the Province of Arezzo220
Montepulciano
Siena21%
Average for the Province of Siena198
Average for the Province of Grosseto52
Average for the crownice of Grosseto
Average for Tuscany
(73) (73) (11/1) (11/1)

The Tuscan establishments which pre pare large quantities of wine are very nu-Following are, however, the merons. names of the most important, which are renowned for exporting their wines to foreign countries, or for special awards obtained; the first named establishments are on the hills, whence the driest and most alcoholic wines are obtained :--

Baron Ricasoli Firidolfi, Brolio and Flor-

Marquis Ipp. Niccolini, Carmignano. Cav. Emilio Landi, Greve. Count Pier Pompeo Masetti, Greve.

Laigi Laborel Mellini, Pontassieve and Florence,

Colonel Giov. B. Cocconi, Montepul-

E. O. Fenzi, S. Andrea in Percussina or Florence, Piazza della Signoria.

Liccioli Bros., Rafina, near Pontassieve. Raffaelle Caselli, Pontassieve (exporter to America.)

I. L. Ruffino, Pontassieve. Comm. Sansedoni Pacci, Siena. Guiseppe Gargoni, Peacia. Count Francesco Guiceiardini, Florenes Prince Pietro Strozzi, Florence. Ferni Bros., Island of Elba.

Prince Antonio Salviati, Migliarino, near

Count Pietro Bastogi, Della Badia. Cav. Luca Mimbelli, Leghorn.

Marquis Roberto Pucci, Granajolo Val

Count Franc, Mastiana Brunacci, Pisa. Ginseppi Toscanelli, Dep., La Cava, near Pontedena.

Maruzzi, Campiglia Marittima. Patrimonio Boldrini, Campiglia Marit-

Ferri & Pierotti, Lucca,

LATIUM.

Latinm, the province of Rome, is our of the most extensive of the Kingdom, and hottest and most distant parts of the world, contains five large districts, viz .:- Civi-Rome. From a viticultural point of view, so exclusive as in the Castelli Romani, but

[47] Latium possesses three principal districts. In the district of Velletri and the so-called Castelli Romani the vine is cultivated on volcanic soil in an exemplary manner, which yet does not diff r from the system practised in the days of Old Rome. Of the varieties of grapes which were formerly cultivated, the white was predominant; but since the new plantations and the renovations of the old vineyards, which were made a few years back when the black varieties were introduced, the production of white has naturally decreased, and we think we may now say that the production of red wines predominates. The wines obtained are naturally strong, agrecable, and keep well; their amelioration has been improved by removing the wines from cellars on a level with the ground (locally known as Tinelli) to excellent subterranean grattoes. These grottoes are specially constructed, being galleries excavated aut of Tufa with niches in the sides, in each of which a butt containing from 8 to 10 Hectolitres is placed. Ordinarily the grottees are provided with one or more ventilators, through which air is admitted, and the tmeperature regulated.

To this district also belong those vines cultivated in the auburbs of Rome, and which are now, owing to certain rules being enforced by which the first 10 kilometers adjoining Rome is to be given up by cultivators, to be removed to other districts; but these were less remunerative, and produce wine less appreciated than those of the Castelli Romani proper, on account of being associated with vegetable

The wines of the last-mentioned district are very highly appreciated by the people of Rome, who purchase them at very high prices, which are sometimes much in excess of that of the same style of wines produced elsewhere. Owing to the volcanio nature of the soil, the wines of Castelli Romani possess special qualities which commend them, when old, to connoissenrs. These wines are highly hygicnic, and are much recommended by the medical profession.

Tha two firms of Felico Ostini and Jacobini Brothers, both of Genzano, near Rome, keep these wines for a number of years, and send them, with splendid results, to the

The second center of production in this tavecchia, Viterbo, Velletri, Frosinone, and region is Viterbo. Here the culture is not the vines are always trained on trellis work in close proximity to each other.

White grapes are the most extensively cultivated, but the black are also grown to a certain extent.

Here the grottoes are less frequent than in the Castelli Romani, but if the wines are well prepared there is little difficulty in keeping them. This district produces more wine than is required for local consumption, but as no city huving a large consumption is near, and as these wines are not liked by the consumers of Rome so much as those of the Castelli Romani, they are sold at very moderate prices. Hence the reason why these wines find a quick market in the north of Italy and in foreign countries, to which some good establishments have of late years transported them.

The third important producing district of this region includes the district of Frosinone, in the province of Caserta.

Here, contrary to the custom of other districts in this region the vines, and especially the white varieties, are associated with trees in their cultivation. The wines produced are ordinarily good and keep well during the winter; and with the addition of a portion of concentrated must, it is possible to keep the wines better during the summer and mature them. This region is beginning to produce more than is required for local consumption, and many of the producers have now commenced to improve their system of preparing wines. grapes are carefully chosen, the black being preferred to the white. Much care is taken in the cultivation, and an endeavor is made to produce wine capable of being kept without the necessity or adding concentrated must.

The prices are generally low, and up to the present these wines have not been shipped to foreign countries. What is not consumed locally is marketed close by.

A considerable increase in the planting of vines has been lately made in the province of Rome along the coast, especially near Civituvecchia, Nettuno, and Terracina; but the production is still too small to induce us to allocate these vineyards in a fourth district. We must, however, mention that here wine is generally cultivated exclusively, and they have a sandy soil which makes it impossible for any damage to be caused to them by the Phylloxera.

The special wines or vini santi, which are prepared in the Roman provinces, as in many others, are not of importance, because the production is limited, and the results not always uniform.

The average production of wine in the province of Rome is at present estimated at 1,927,300 hectoliters; this production according to the population of each district is as follows:—

Districts.	Average production of wine per inhabitant.
O	Litres.
Civita Vecchia	47
Frosinoce	900
Rome	
Vollet-i	195
Velletri	345
Viterbo	
Average for the provioce	

In this province the following establishments may be mentioned as the most important and recommendable:—

Felice Ostini, Genzano and Rome. Jacobini Bros., Genzano and Rome. Fumiglia Santovetti, Grottaferrata and

Marquis Ferrajoli, Albano. Prines Ginnetti d'Avellino, Velletri. Cav. Oreste Vanni, Viterbo. Prince Ruspoli, Vignanello. Prince Del Drago, Filacciuno. Mancini and Sindici, Ceccano,

#### DANGEROUS CANNED GOODS.

The following medical advise in connection with canned goods is worth remembering: The fact that canned goods are cooked goods cannot be too widely known or carefully remembered by users. They are not put up in vessels from which they are to be eaten when convenient to consumers, but are only packed in tins in order to preserve them. No canned goods are guaranteed to keep fresh and remain sound for any number of days after being opened. When opened the contents of the tin should be immediately turned out and eaten as soon as possible. If the food must be kept at all, cover it up and keep in a cool place. Turn it out of the original tin into a dish. The liquor around lobsters, salmon, and all vegetables excepting tomatoes, it is desirable to sirain off and throw away. Lobsters and prawns are improved by being turned out into a sieve and rinsed with clean, cold water. Never on any account add vinegar, sauce or any kind of condiment to tinned foods while they are in the tins, and never leave such mixtures to remain an hour or two, if from forgetfulness it is done.

All tinned goods are put up as fresh as t is possible to be; but unless corned or isalted will not keep after opening as freshly as cooked goods will, and certainly not longer, as many thoughtlessly suppose or expect they will. Sardines if preserved in good oil, and if of good quality, will be an exception. As long as the oil is good the fish can be kept in the tins, but two or thres days is long enough to trust these before eating. Consumers should not buy larger packages of canned goods then they can consume quickly; if they should, most of the fish and meats can be potted after cooking, sauces and seasoning being used. If the nose and eyes are properly used, it is as impossible to partake of an unsound tin of canned food of any kind as to partake of bad meat, fish and vegetables from a shop.

## POULTRY IN THE ORCHARD,

While it is undisputed that an orchard is one of the best places in the world in which to establish a poultry-yard, we have also found that poultry is good for trees. We have 16 Shockley apple trees, seven years old, standing in and around the poultryyard. Some of them standing directly in the runs of the fowls have as many apples on them as any five on the outside. is conclusive evidence that the one is beneficial to the other. The chickens destroy all bugs and insects that prey upon the trees and fruit; at the same time they keep down all grass and weeds and keep the surface of the ground well scratched up and a mellow condition, thus promoting the health and vigor of the trees, causing them to bear larger and better fruit. Some of the trees in our yard are literally hanging with nice apples, and so heavily laden that we are compelled to keep the trees well propped to keep them from breaking down. Shade is one of the indispensables about a poultryyard in the summer months, and it is certainly better and more profitable to have some good variety of fruit. We at the same time get the needed shade and a bountiful supply of delicious fruit, if of the same kind. We should certainly advise all to have orchards for poultry and poultry for orehards, for the one will be greatly benefited by the other.-Ex.

#### THE OLIVE.

## Varieties now Cuttivated in California and General Observations.

[By B. M. Le Loog, Secretary State Board of Horticulture.]

The following translation from the "annals" of the National School of Agriculture at Montpeiller, France, will farmish the most reliable information obtainable to growers of this valuable fruit in California:

#### PICHOLINE.

A variety believed to be the Picholine is fruiting in several parts of the State under one of its synonymes of Oblonga.

Synonymes. — Pichouline, Pecholine, Pej juline (Languedoc.) Saurine, Rozier. (Nimes) Sausco, Saugen, Sauzin (Gard.) Saurenque (Aix) Plant de Saurio, Sanrine punchado (Marseille.) Piquotte, Piquotte (Beziers.) Coiasse ou collasse, Reynand. Lacques patarde (quelques localites del Herault.) Olivo lechiu, Taplada. Pignoli Duhamel (Genes.) Olen ovalis Clemente Olea europaea saurina, Risso. Olea europaea oblonga, Gounn. Olea frustu oblongaminore, Touraefort. Olea minor oblonga, Magnol.

## DESCRIPTION.

Tree of vigorous growth, but of averag dimentions; its trank is cylindrical; its bark is easily detached from the trunk in large, irregular layers; its branches extenhorizontally and of slight build; the rejection of its leaves is not numerous. Branches not very vigorons, short, strong, inserting themselves at right angles; of a greenish, yellowish color; near the bark of a rugged nature covered with numerous protuberances which are quite visible; wood cylindrical and flattend slightly; knots few in number. Leaves oval, lance shaped, very often enlarging themselves at the superior part; of average length, average length five and one half to eix and a half centim. Width one and a quarter to one and a half centim. Top surface of a dark green color; bettom surface approaching end of leaf rather thick and of a solid white color. Stem very thick, hurd, breaking easily. Veins very visible from the bottom. Stem short, very thick, very much curved toward the surface of the upper side of leaf. Leaf stalk large, long, but little contorted. The leaf perceptibly flat, the edges of which are not very much curled up. The leaves accumulating in great numbers on the young branches, covering them thickly. Fruits generally accumulating in the direction of the branches of the year (yearly branches,) isolated or grouped by twos on the leaf; stalklet very short. Fruit stalks very large, short, inserting themselves in a rather large depression of the fruit. Stigmate persistent in an umbilie not very visible. Olive a trifle below the average size, length two and one half to three centim., width one to one and one fourth centim. Of clongst.d form, but large near the fruit stalk, with a tendency of tapering itself towards the point; rather symmetrical. Strongly fortified on one side at a point not attached. Intermediate form between va rietics Oliviere and Lucques. The fruit changes (passes) in color from light green to wine red, then to red bluck. The surface earries a number of spots, speeks, variegations sufficiently visible. Little like n plum. Skin fine, bulb abundant, of a dark red color, fleshy. Kernel (pit) small, very elongated, pointed at both extremities, with a more pronounced curvature than is generally found in most olives. Tree of average maturity,

#### OBSERVATIONS.

The Picholine is widely known (spread) in certain parts of Province, particularly so in the neighborhood of Aix, Turascou, Marsville, One likewise encounters it again frequently in Languedoc, but only by its name, as it is only a secondary varicty there; perhaps also in some localities of the department of Gard. It is a variety yielding a good and regular production, being rather hardy (unstic, ) it is able to stand severe amputations, to which it has been subjected at Hante Province. It is cultivated sometimes for its oil, but more often for having the fruit picked green, having its commercial value in view as a (pickle) preserve. The Picholine is a v ry lelicate olive, as much prized as the Olive 'Verdale" for table use, and which is s ld often under the name of "Lucques," but esembling it a little only in form.

#### SAILLERN.

Fruited in this State this year under one its synonym, s of Atro-Rubens,

Synonymes—Saillerne (Nimes.) Sarg ne Dien niner, rotanda, rubro-nigrig ens. Furnefort, Olca Alro-rubens, Flor Monsp,

DESCRIPTION. A very hardy tree, middling or ta'l, spreading out; trunk very big, enlarged at the base; the bark comes off lengthwise in thin strips of blackish color; the main lim's are horizontal or slightly set up; shoots very numerous; it is one of the varieties which put forth the greatest number. Branches pretty vigorous, generally in limited quantity, big, much bulg d out at the insertion, of dirty yellow color, longitudinally striated and covered with apparent and numerous freekles; wood decidedly canali. culate; knots little prominent. Leaf lanecolate regular, short, relatively large, (mean tength six to seven centim., width one and one-quarter to one and one-half centim.); upper face shining light green, a little wrinkled; under face covered with a dirty white coating pretty abundant. Limbs not very thick, flexible; nerves well delineated on upper face; mucron well marked on the wide point of the leaf; hard, short, bent round. Petiole big, short, bent over, bringing the leaves upon one another on the same side of the branch. The leaf is nearly flat, the edges but slightly drawn back. The cover of the tree, little provided with leaves, on the inside is always tolerable thin. Fruits for the most time isolated, occasionally grouped in twos, one two-year old branches. Pedancle long (fruits hanging down), inserted in a light depression of the fruit; stigm : persistent in a well marked umbilic. Olive pretty small (length one and one half or two centim., width one to one quarter centim.), nearly ovoid, a trifle oblong, slightly bulged out on one side. The fruit is deep black when ripe and very hoary; skin thin; bulb not abundant nor fl.shy, juicy, colored a deep vinous red; pit big, of same form as the olive; tree of middling maturity.

## OBSERVATIONS,

The Saillern is pretty much cultivated in Province, principally about Aix, and in Languadoe. It is a dalicate tree, sensitive to cold, and consequently not many old plantations of this kind can be found. It is nevertheless a merito ious variety, especially on account of the excellent quality of its oil. It brings out fair crops, bears most every year, and deserves to be planted in the situations and localities where the winters are never very severe. The Saillern is almost exclusively grown for the sake of its oil.

ROUGET.

Fruited this year under one of the synonymes of Cayonne.

SYNONYMES. - Rougetto (Montpellier, Beaucaire), Rousscoun (Aviguon); Marveilletto (Manosque) l'igan or Rougette, Lauro (Bouches-du-rhone). Vermillau (Gard) Caillose, Cayonne, Rougeville (Toulou). Olea rubicans (Rozier).

#### DESCRIPTION

This tree is hardy, half erect, and a rapid grower under favorable eirenmstances trunk cylindrical, canaliculate; bark blackish gray, wrinkled; the main limbs are either horizontal or upright; the forms of a vase or a ball are the most favorable to its development; shoots very numerous. Branches numerous, even on the old wood. hardy long, thin, horizontal or semi-creet, of a dull gray, wrinkled, covered with many small, regularly distributed freekles; wood irregularly furrowed, even on old branches; knots prominent. Leaf lanceolate, pretty large (mean length five and one half to six and one half centim., width one to one and one fourth centim.); upper face deep green with pretty numerous punctures stamped on the edges; under slightly coated, greenish white; limbs thick, with edges slightly drawn back; nerves little marked on both faces; mucron tender, little prominent, but well defined in the plane of the leaf, Petiole short, very thick. The leaves are very numerous and the cover thick, of deep color; inserted perpendicularly on the branches, the leaves present out their upper face; the result is that the tree is of a deep hue, and can be recognized readily at a distance. Fruits distributed on the whole length of the two-year old branches, more numerous at the base; isolated or in groups of two, three or four. Pedancle pretty long, big enough, entering into a shallow depression; stigma little apparent. Olivo under middle siza or small (length one and one-half to two centim., width one to one and one-fourth centim.), ovoid in form, narrowed in towards both ends; the fruit remains light red for a long time, then turns to a reddish black; some olives remain red till the general ripens, hence its characteristic name of Rouget. It is speckled with pretty namerous dots well marked on the red or reddish background; not very heary; fruit rather shiny; skin pretty thick; pulp fleshy, colored by an abundant vinous red juice; pit middling or small, of clongated ovoid form; very late variety,

OBSESVATIONS. The Rouget is altogether a very hardy variety, and very p ecious for propagation in poor land. It thrives in the garrique (waste lands), soils of Herault even in the midst of calcareous rocks, where it would seem no vegetation could exist. Under such very nufavorable conditions the Rouget developes to a satisfactory sizes and bears regular crops. In the garriques, covered by a layer of mellow land more or less gravelly, the Roug.t bears most every year, and abandantly. The frosts of the very severest winters have spared this variety, and very important plantation, can easily be found, the ago of which certainly exceed 200 years on an average. It had multiplied greatly in Languedoc befure the development of vineyards. The Rouget yields an oil of fair quality. A great quantity of this olive is consumed in the form of pickles. For the latter use they are gathered up when yet reddish.

## VEEDALE.

side hills, so steep they can hardly be coltivated. The trees this year were full of fruit and doing well.

Synonymes - Verdaon, Verdau, Vereau, Aventurier (Frejus.) Calassen (Lorgues Var.) Olea veridals, Gogan, Flor. Monsp, Olea media rotunda viridia, Tournefort. Olivo verdago, Tablada,

#### DESCRIPTION.

This tree is of dwarf habit, half creet and has little vigor; trank thin, short, conical, canaliculate, with bark rough and greenish-gray; branches slightly drooping, principally those at the top of the tree the tree has a general form of a ball, with a light cover; the roots do not penetrate to a great depth, and the tree is frequently rooted out by strong winds. Snoots scarce easily grafted. Branches are not numer ous; upright or slightly inclined, inserted at a right angle, of a dirty yellow or 18th yellowish gray color; freekles scarce and dim, knots pretty prominent. linear, short, very narrow, well characterized by their feeble dimensions. Length, five to six centim.; width, one-half to threequarter centim. Nervea, very prominent. of light green; edges drawn back and forming a regular well marked chaunel. Mueron not detached, little prominent, little aeute, situated in the plane of the leaf, slightly inclined in the direction of its curvature upper face dull light green, a little wrinkled; under face dull white; limb of medium thickness; petiole short, thin, bent round so as to bring the upper faces of opposite leaves together; all the leaven are situated in the same place on the branch, and frequently form with the latter a very acute angle. The leaves are pretty numerous at the ends of the branches, scarce elsewhere; cover of the tree light. Fruits isolated, never gathered in great numbers, with ped. uncle of middling length, thin, dirty green, inserted into a shallow depression; big, nearly round, slightly truncated at the top infun dibuliform (fonnel-shaped); very green till nearly ripe, then of a vinous red. and finally of a deep black, somewhat dull; very hoary at maturity; olive soft, with pretty thick skin; pulp fleshy and little juicy; pit very big, of same form as the olive, with surface but slightly furrowed: very early.

## OBSERVATIONS

The Verdale is much cultivated in Languedoc, notably about Montpellier, Beziers, and in Gard; it is exclusively cultivated in some communes (for instance Aniane, Herault), where green olives for table use are prepared on a large scale. The Verdale is also found in Vaucluse and in Bouches-du-Rhone, but not so extensively as in Languedoc. It is a very early olive, but little productive of oil; it also rots pretty quickly when fully ripe. On the other hand. the Verdale deserves to be propagated when green olives are wanted, for it is a nice olive, generally much appreciated for the table, and is the subject of a very important trade; it must, however, be set out only in good ground, or in ground of medium quality, as its productions fall out in bad soil. The Verdale is pretty sensitive to cold, and the dropping off of the olives frequently diminishes the crop.

## OLIVIERE.

SYNONYMES-Oaliviere, Oalliviere, Oalivicira. (Herault). l'ointue (Herault); l'ounchudobarralenque (l'revence). Gailineuque, Galineuque, Rosier, Amoreax, Fraiting in several parts of this State. (Languedoc). Liviere, Laurine. Losier.

At Saratoga it is in bearing on very steep Michelenque, Amoreux, (Gard). (?) or mingled with other varieties, may be Bouteyenque. Amoreux (Beaucaire). Plant d'Aiguieres. Amoreux (Marseille). Angelon Sage Reynaud (Gard). (?) Onana (Roussillon). Olea europaea media oblonga angulosa Gouan Flor, Monsp. Olea europaca laurifolia. Risso. Olea fructu majusculo et oblongo. Tournefort,

## DESCRIPTION.

This tree is hardy, never of a very large size, and spreads out; truck cylindrical; bark blackish gray, full of fissures about the trunk and heavier limbs; comes off in short regular strips; the heavy limbs are either horizontal or inclined downward, their many branches falling to the ground; the whole tree looks like a cylinder much broader than high; has usually but few shoots. The young branches are vigorous, bent round, spirally arranged, and grow out at an acute angle; they change from a elear ashy gray to a blackish gray after the first year; the wood quite quadrangular at the outset becomes cylindrical as the branches grow older; besprinkled with light brown freekles, slightly striated; medium size knots. Leaves oblong, oval, lanceolate, large to very large (mean length, eight to nine centim., ten to eleven centim, in exceptional cases; mean width, one and one-quarter to one and a half centim, up to two centim, on the hardier stock). Upper face of shining light green; thick, even white coating on lower face; limb thick with edges much drawn back, forming a channel; nerves appearing only on upper face; mucron long, neute, bent round toward the under face of the leaf; petiole middling, inserted at a very acute angle, especially at the end of the branches where the leaves are habitually accumulating. The leaves are very numerous, and the cover of the tree thick; they are, besides, drawn up, presenting out their nuder surface, so that when seen at a distance the tree has a very peculiar whitish appearance, Fruits gathered up at the base of two-year old branches; almost exclusively on drooping, seldom on dressed, branches; often in groups of two and three; pedancle long, of middling thickness, entering the fruit in a rather deep depression; stigma little apparent in an umbilic little marked at the point of the fruit; elive of medium size. length, one and one-fourth to two and onefourth centim., width, one to one and onehalf centim., flattened out at the insertion; of cylindro-conical shape, but slightly bulged on one side; little elongated and ending abruptly by a prominent and well delineated point, hence the charneteristic name of pointee (pointed) under which it is known in certain localities. The fruit changes from green to red, and finally becomes, at maturity of a bluish black color, with a few spots of dark red; it is dimly dotted, hard when ripe, and very hoary; thin skin; pulp whitish, colored by dirty red and not abundant jaice; pit pretty large, of the general form of the olive, with wrinkled surface, and a very sharp point; tree of second maturity. ODSEBVATIONS.

The Oliviere is one of the most aucient varieties of olive trees, cultivated in certain parts of Languedoc. Amoreux states this fact in his Traite de l'Oliviere, published at the end of the last century; "The Ouliva pounchuda is one of the most common around Montpellier, and it is almost the only one to be seen about Narbonne, and throughout Languedoc as far as Breziers." There are but few of these large plantations remain-

found in almost every place where the land owners have preserved trees enough for their sapply of oil so that if the Oliviere cannot be considered the most cultivated variety, it is the most widely spread in Languedoc. It exists also in Provence, in Roussillon, in Algeria, and in certain parts of Italy and Spain. The Oliviere is a very hardy tree of great long evity, sturdy, and withstands without much injury the most severe frosts. This opinion is shared by Rozier Laure, who considering this variety as sensitive to cold, has undoubtedly made his observations in damp regions, where it was commonly met with in former times, It grows to perfection only in a rather rich soil. In soils that are too dry or too poor quality, its vigor lessens; its production is affected and it becomes then inferior to more robust varieties. In suitable ground the Oliviere is very productive, it hears abundantly and most every year. The quality of the oil expressed from the Oliviero varies greatly according to the nature of the soil where it is grown; good when grown in gravelly or light sod; the oil is, on the other hand turbid, that is, full of sediment, when coming out of damp or rich lands. In the latter case it is little liked for table use, Owing to its vigor the Oliviere withstands without much inconvenience severe pruning and even the heavy amputations to which it is at times subjected. The old wood gives new shoots easily and ean very well be grafted. Most of the hardy varieties, however, possess the same qualities ..

#### LUCOUES

This variety is now fruiting at Livermore, Cal.

SYNOYMES - Olive de Lucques, Lucquoise (Basses-Alps). Oliverolle (Beziers,) Odorante. Olea minor, Lucensis, fruetu oblongo, incuvo, oderato (l'ourneforg). Olea europaea ceraticarpa (Clemente.)

Tree of middling vigor and development; semi erect; cylindrical trunk; the bark comes off easily in long strips, so that the trunk is often almost laid bare; the main limbs are either horizontal or erect; as a whole, the tree habitually takes the shape of a vase, a ball, or sometimes of an umbrella, according to the mode of trimming; shoots scarce; branches hardy, long, straight, erect or horizontal; young branches pretty numerous, situated upon the limbs at a right angle, generally drooping, of a decided gray color, longitudinally striated and covered with a great number of freckles; wood of hexagon form, especially at the end of young brauches; prominent knots.

Leaf sublinear lanceolate, pretty loug, hot narrow (mean length six to nine centim., width three-fourths to one and onefourth centim.); upper face light green,dull, somewhat wrinkled; under face covered with a dirty white thin coating; limbs not very thick; nerves little marked, even on upper face; mucron acute, short, bent round in the plane of the leaf; petiole long, thin, bent round. The leaf is drawn back at the edges, it is unequilateral, and assumes the shape of a very much clougated crescent, ending by the mucron; the cover of the tree is pretty light, owing to the lim. ited number of leaves, their relative smallness, and the divergent disposition of the branches,

Fruits often isolated, distributed for the most part at the base of the young branches; pedancle long, thin, entering into a ing to-day, but the Oliviere, either alone shallow depression of the fruit; stigma perpretty big, length two and one-half to three centim., width one and one-fourth to one and one-half, of the form of a crescent or a keel, having both ends bent round, and the opposite side to the curvature nearly rectilinear, which makes it of a very peculiar shape. The fruit changes from a light green to a shining bluish black; very little hoary; the surface is slightly speekled; thin skin; abundant pulp; pit pretty big, of similar form as that of the fruit, bent round at both ends, with furrowed surface, ending by two points, the lower being the sharper; fruit ripens early.

The Lucques is not a very common variety; it is found in large tracts in France only where the propagation of olives for the table forms a special industry. It seems to have originated in Italy, where it grows in several places, notably at Verona. It is commonly found in Languedoc, around Beziers, Montpellier, Nimes, Lunel, but it is little cultivated in Provence, except in the Lower Alps; it is also found in certain parts of the Oriental Pyrenees, whence it was brought to Spain.

The Lucques is a tolerably vigorous tree, of medium longevity. All writers who have studied this variety consider it as very enduring in cold weather and adapted for cultivation on the extreme boundaries of the olive tree region. It may be found in the most various situations, but it grows to better advantage and gives larger crops on deep, hilly lands; it is not to be recommended for garrigue soils (waste lands), or those of poor quality, in which it gives inferior results. The production of the Lncques is relatively small, but this cause of inferiority is partly compensated by the beauty and excellent quality of the olives gathered green for pickling purposes. It is the most highly prized and best table olive, and it always commands the highest price in the market when gathered at the right time. The oil furnished by the Lucques is of very good quality, but its fruits are very seldom used for that purpose; except in cases of disease, the olives are always gathered up green as stated above.

## PICALE

SYNONYMES. - Pigaou (Herault). Pigalle Amoreaux (Montpellier), Nimes. Beziers. Pigntado, Amoreaux, (Narbonne). Pognue, Amoreaux (Grasse). Pigan, Marbree, Tiquetee, Rozier, Olea minor rotunda, ex rubro et nigro variegata, Garidel Olca variegata Gouan. Flor. Monsp. (?) Olea pignola,

## DESCRIPTION.

This tree is tall, semi-erect, and hardy, canaliculate trunk; bark grayish, knotty coming off in large pieces about the trunk and primary ramifications. The main limbs are most always upright or semi-erect seldom horizontal. It is one of the tallest olive trees of Languedoc, when allowed to grow without heavy amputations. Shoots nnmerous and hardy. Branches numerous, hardy, big, smooth, of dirty gray color, much swollen at their insertion, which is at an acute angle; wood slightly channeled on young branches, with small freckles, not numerous and irregularly scattered; knots little prominent. The branches are slightly drooping in general leaf lanceolate. rather short, large enough, mean length six to seven centim., width one and one-fourth to one and three-fourths, a little drawn in towards the insertion; upper face deep green, smooth, riddled with small white punctures, very well marked (peculiar); green, with smooth, clear surface; it is a

a little coriaceous, with edges slightly drawn back, so that the leaf has pretty much the appearance of a wide and shallow channel nerves a little prominent on the under face only; petiole big. short, straight, growing out of the branch at almost a right angle. The leaves are regularly distributed on the young branches, and almost perpendicular to the latter; they are numerous enough, but owing to the tree spreading out pretty much as a rule, the cover of the tree is not very thick. Fruits regularly distributed on the whole length of the branch, isolated or grouped; peduacte fong enough, big, light yellow, inserted into a deep depression; stigma little apparent; olive rather big, mean length two to two and one-half centim. width one and one-quarter to one and onehalf; cylindrical, regular, oblong, rounded off at both ends; red at first, the fruit finally becomes a deep black; hoary to a small degree and but for a short while gets very shiny; upon this shiny background come ont numerous white dots, well defined, hence its name of Pigale. This olive remains firm natil ripe; skin thick; pulp fleshy, little juicy, colored white or light vinous red; pit hig, of regular shape as the olivelitself; late variety.

#### CESERVATIONS.

The Pigule is a commendable variety. Granting that its production is somewhat curtailed by its luxuriant growth of wood, the fruits are of good quality and fit for table use, as well as giving a great deal of oil of excellent quality. The largest plantations of this variety were formerly sround Montpellier, Narbonne, and Nimes; some important ones are still found in the garriques of the Commune of Saint Georges. near Montpellier; it is also met with in Provence, especially about Aix. As this olive ripens very late it cannot be gathered only late in winter, when often its surface gets wrinkled on account of the frost. It would he opportune in large plantations to mingle the Pigale with earlier varieties, so as to have ample time for picking.

## VABIETIES INTRODUCED IN CALIFORNIA.

The main object in describing the varieties herein mentioned is for the purpose of identification, and in order to straighten, if possible, the nomenclature of the olive, which is a very mixed one. There are varieties now fruiting in this State known only by some of their synonymes. In one case a variety was propagated under three synonymes, and this fact was not, and could not be, discovered until the trees fruited. The fault lies with the nurserymen abroad. where so many names have been given to varieties, and in consequence thereof the identity of a certain variety by its name is very difficult and is only known by

The following varieties are now fruiting in several parts of this State, and are of the earlier kinds. Other varieties and the late ones will be described, with general observations thereto in a subsequent article.

## PENDOULIER.

At the last meeting of the State Board of Horticulture (July 2, 1888), I reported this variety as being somewhat smaller than the Mission. This was due to the fact that the trees from which the specimens were taken, and from which the cuts were made, had not been cultivated or praned for five years. Tree is a heautiful one, of vigorous growth and of large dimensions; hranches drooping (weeping) in character; color of wood light

sistent in a well-marked nmbulic; olive under face greenish white; limbs thick and tree of very good production, Fruit large, generally accumulating singly in opposite directions, also by twos on the fruit stem; length, one and one-eighth inches; width three fourths; color, wine red, changing to deep blue black; has on the surface a numher of very small white specks, which are quite visible, but very minute. Pit (kernel) three-quarters of an inch long, tapering at the upper end, broad at center, with a curve commencing about the center down to the point.

#### ODSERVATIONS.

At Vacaville this variety is growing in the orchard of Mr. A. Montpellier. Mr. Montpellier imported his trees from Italy in 1885. They have been planted three years; one of the trees bore fruit for the first time last vear. This year all bore fruit (five trees) ex cepting one that has not received any irrigation. Since the trees were planted they have received very good care - they have all been irrigated excepting one, this non irrigated tree receiving the same treatment, has made fair growth, but it is not onetouth the size of the other trees, and from present indications it will be a veral year before it will bear. The fruit ripened is the first part of October.

At Sonoma this variety is growing in the orchard of Mr. L. P. Rixford. Mr. Riv. ford imported his trees from France some ten years ago. The trees four years after planting, bore fruit in great numbers, and have continued to bear good and regular crops every year; they ripen at Sonoma in November. During the last five years (the place having been rented), the trees received no cultivation or pruning. Notwithstanding this, their production has been good, although the fruit has been somewhat small. Mr. Geo. E. Ladd of Atwater, Merced county, has also a few trees, which bore fruit this year for the first time. They ripened there about the same time as at Vacaville.

## MANZANILLO.

Fruit of large size, of irregular orange shape. Color, brilliant purple, changing when mature to deep blue black, with very minute . white speeks. Pit of a peculiar shape, and different from those of any other olive. This is an early variety. I obtained specimens of it in the early part of October.

## OBSERVATIONS.

At the orchard of Don Jaun Galtegos, at the Mission, San Jose, I saw several large trees of this variety that were loaded with fruit. From all appearances the tree is a rapid grower and a prolific bearer; the fruit being large makes it easy of handling. Mr. George E. Ladd of Atwater, has also a few trees which bore fruit this year, mathring there much shead of the above named place. Dr. J. M. Stewart of Santa Cruz, has several trees in hearing. There are also a few trees in bearing at San Jose, Niles, and Santa Barbara. This olive is excellent for pickling and for oil.

## BUDBA.

This is a remarkable variety; fruit medium small, but bears heavy and regular crops. This olive is best suited for oit, but is also used for pickling. I saw trees of this variety in full bearing in the orehard of Mr. John Rock at San Jose. The trees were quito large, and the limbs were very thickly covered with fruit; in fact it was a wonder to me that the trees were able to hold the weight of such a heavy crop without being propped. At Livermore, in the orchard of Mr. Charles A. Wetmore, I also

only having been planted two years. This tree begins to fruit quite young, and is a prolific bearer.

Fruit very large, of light purple color, changing to red black when mature; fruits accumulate on the branches singly and in twos, in opposite directions; tree is of small dimensious, and drooping in character; the leaf is small and narrow; an early variety. The fruit is only used for pickles, to which purpose it is well suited; they contain very little oil which is not of good

This is a valuable olive, both for picklea and for oil; fruit hangs in large clusters, of a bluish-black grape color, resembling a claster of grapes. I have counted as many is fifteen large ripe berries on a cluster; a capid grower and a very prolific bearer. consider this variety one of the most valuable. This olive is now fraiting at San lose, Niles, and Saratoga.

#### A "RO-VIALA "EA

Fruit medium to large, of a deep blue dack color; tree is a vigorous grower, of a reeping liabit and of gool production; a ost valuable variety both for pickles and for oil.

This is a handsome tree and a good searer; fruit medium to large; ripens early. The fruit is said to produce a fine grade of oil. It is used for pickling considerably, ooth in its ripe and green state. This year the fruit ripened in the early part of October. This variety is found growing in several parts of the Livermore valley, Sauta Cruz, San Jose, Niles and Mission San

## COLUMELLA.

SYNONYMES-Loaime, Pasala, Columbalta, I consider this variety a most valuable acquisition, because of its productivenessand fruit of superior quality. The weight of the fruit generally brings the branchesto the ground, unless they be propped The fruit is of a very clear yellow color before maturity, therefore, most valuable for a pickling olive. The tree is a rapid grower of medium dimensions, stocky, and well able to support the weight of the fruit. This variety is found growing at Livermore, Sun Jose, Niles, and Saratoga. The fruit through the mouths of November and December retains its yellowish cotor, then changes to wine red, and when mature to blue black.

## BEDDING PICHOLINE (CAL.)

This little olive was introduced iuto this State several years ago; it is a tree of smalt dimensions; fruit small, of a deep blue black color; the fruit is gathered on cloths, being stripped from the limb with a hand wooden comb. The fruit makes good oil, and a sweet pickle, but it is best suited as a stock. The true name of this olive is unkuown. I also fail to find it described in any book on the olive; possibly in its native country it grows to better proportious than here. It does not belong to the Picholine

This tree is of good production, and of very large dimensions; fruit varies in form; several types have been observed on some trees; this is somewhat peculiar, as among other varieties this does not occur. The fruit hangs on the branches singly, in twos, threes, and also in clusters; color, deep purple changing to jet black. It carsaw trees of this variety in fruit, the trees ries on its surface numerous white specks,

but gradually they disappear upon ripening; a free stone; ripens late.

OUSERVATIONS.

There are several "types" of what is known to be the "Mission" olive. Different types are found in almost every old orehard in the State. At the Mission San Jose, Mr. John Rock and myself discovered seven types in the Mission Orchand; some are early and some are lute: some are long and pointed, while others are round. At this place we discovered a tree that is different from any that I have seen. That tree is over a hundred years old, and its branches were heavily laden with very large berries. The fruit is of extra large size, and very early. At the time we visited the place (November 15th), no green fruit could be seen on that tree. The habit of this tree is also different from any other Mission tree. It has a weeping habit, resembling a willow, having a willow-like leaf. Alongside of this tree were several other trees of the same age; the trunk of one of them measured five feet four and three-quarter inches in circumfer euce, at about four lect from the ground, All these trees receive the same care and are on the same kind of soil. The Mission is a tree of great longevity, and those trees now growing at the various Missions throughout the State, in the prime of bealth, over a hundred years old, are enough to substantiate this statement. therefore, no comment is needed. It is a tree that has done exceedingly well in this State, and better when properly cared for; and can be found growing and fruiting in slmost every county. I have seen state, ments published, in which the writer contend that this olive is not worth propagating, that it is the wild olive of France, How absurd those statements are, and none but the non-informed could give them utterance. To the Missionary Fathers we owe much for baying introduced and planted this tree in our midst, and although they have gone beyond, from where no traveler returns, these trees stand to-day as a fit monument to them for the good they have accomplished. For over a century they bave furnished fruit for food, and oil to heal the sick, therefore, they should be honored as upon the secred soil in which they dwell.

## ALL IN A HALF CENTURY.

The unification of Italy.

The annexation of Texas,

The French revolution of 1848. The discovery of photography.

The laying of the ocean cable.

The invention of the telephone.

The emancipation of Russian serfs.

The discovery of the electric telegraph.

The overthrow of the pope's temporal power.

The establishment of ocean steam navigation.

The extension of Russian power into Central Asia.

The great Franco-German war and the unification of Germany.

The great civil war and the abolition of slavery in the United States.

The rise and fall of Napoleon III., and establishment of the French Republic.

The discovery of the sources of the Nile and Niger, and the exploration of the interior of Africa.

Subscribe for the MERCHANT.

The following essay by H. P. Stabler, Secretary of the Suiter County Horticultural Society was read at the recent Fruit Growers' Convention in Chico:

Fruit culture in California is now assuming vast proportions, and every department is being thoroughly worked up by energetic men. The Fruit Union has proven itself eminently successful and insures a market for the California fruit-grower, in the East, for an almost unlimited output of green fruit. The Dried-Fruit Association will doubtless do the same for him for his dried fruit. The success of these two enterprises at once puts the fruit business in this State on a sound basis, commercially, and no doubt will be the cause of many engaging in the business in the near future.

But there are yet serious hindrances to the ultimate success of the business, which, if not overcome and counteracted, will in a great measure reduce the profits and may stiously cripple what now promises to rank with the most prominent industries of the State. Undoubtedly the greatest threntened drawback to the success of the fruit nterests of the State is the prevalence of depredating insects on both vine and

Nearly every branch of industry is affeeted by injurious insects. Earth, air and the sea swarm with them. All crops throughout the country are more or less injured by them, and many are entirely ruined by their depredations. Cotton and tobacco in the South, potatoes and corn in the West, and wheat and rye in the North have often been rendered entirely profitless by their devastation, but it is the fruit grower of Californin who suffers most from the depredations of pests. The tree in the nursery, the tree as it grows in the orehard, the fruit on the tree, and the fruit after it is dried is often infested with pestiferous insects.

Our climate, so mild and equable, is wonderfully favorable to the propagation and dissemination of insect pests. While almost every known horticultural product of the world will grow and flourish in some part of California, the pest that infests it, owing, doubtless, to the salubrity of the climate, will also multiply and spread to an incalculable extent. Not only have we to contend with almost every pest that is congenial to other climes, but with some species that only exist to a considerable extent in this State.

Many of our enterprising citizens who have imported trees, plants, and scious from foreign countries are doubtless responsible for the introduction and subsequent aprend of some of our worst pests, but however it happened, we know that the pests are here, and it looks as though their erad ication was going to be a difficult problem to solve.

The orange growers of the southern part of the State are unpleasantly familiar with the cottony cushion senle, the peach and prane-growers of Upper California have been forced into a reluctant acquaintance with the San Jose scale, and the apple and pear growers are sorely troubled with codlin moth and wooly aphis. The ravages of pests in this State alone annually amount to tens of thousands of dollars, and unless effective laws are enacted by our Legislature, and stringent measures adopted and followed by ourselves, the loss will certainly increase at a fearful ratio I am not prepured to say that the present laws on the

WARFARE AGAINST INSECT PESTS. signed; but if they are wanting in any essential particular, they should be speedily amended and made to conform to the necessities of the case. It does not seem to be so much the deficiency of the laws applicable to the matter in hand as the noncompliance with them by interested par- fact still exists that the dissemination of

From the fact that pests will spread from orchard to orchard, through some process nct well understood, thus rendering the thorough and scientific spraying and disinfecting of one man useless unless his neighbors also adept the same course, the most stringent and hinding methods should be adopted and inflexibly pursued to contest every inch of pregress made or threatened by pests.

The inventive genius of the American people has placed in the hands of the modern horticulturist adequate and efficient appliances for the destruction of these insidious enemies. The law has also wisely provided for an officer, whose duty it is to examine orehards, experiment with the nature and habits of insect pests; to ascertain, invent and promulgate remedies and outline the best methods of their application for the destruction of the pests; to import known parasites if possible, and generally to assist in every possible manner to attain the end desired. Such an officer now exists, and is believed to be worthy and competent. He is doing his duty in a careful laborious and painstaking manner. All else to be done remains with the fruit-growers. They should organize in every fruit-growing section in the State horticultural societies. Every fruit grower, however small his possessions may be, should become a member, and every member should regularly attend the meetings. The local inspectors of pests and quarantine guardian should have at all times the full and moral support of every member.

It is notorious that in many fruit growing sections of the State some orchardists anne. ally expend much time and money in spraying, cleansing and pursuing other well-known modes in exterminating pests, while adjoining owners neglect their orchards, knowing them to be infested. thereby affording a hot-bed and breeding place for the worst pests. Vigorous and well directed efforts and a thorough and efficient concert of action seems to be what is needed. Efficient remedies are known to the skilled pomologist and can be ascertained and procured by every one. They should always be applied at the full standard of strength and in the most thorough and exhaustive manner, and by every one who has an infested tree.

A community can be infested from one tree planted in a house-yard, and it is highly important [that every fruit-grower should be well versed on the time of application. When the insect is in its incipient state it is much more easily killed than when it approaches maturity and takes on its defensive armor. Every infested tree should be repeatedly and thoroughly eleansed at the proper times, and in default thereof immediately removed and destroyed.

From a limited experience I am convinced that apathy on the part of the fruit-growers of California is the best friend that the insect pest has yet found. Persons who have but a few fruit trees for family use seem to be the most carcless in respect of their condition. They obtain their income from some business other than fruit-growing, abject are not sufficient for the purpose de- and therefore give their trees little or no

attention. Of course it would not pay the latter class of persons to purchase and keep in order a full complement of appliances for the destruction of pests, or to learn from others versed in the matter the most spproved remedies for that purpose, but the of these little enemies to the orchard comes isrgely from the foul trees of the small grower; therefore, it should be obligatory on the part of such owners to either keep their trees in a healthy state or else remove them. Almost any progressive orchardist would apply the remedies for a nominal consideration, his main benefit secruing from the fact of the destruction of the pests. This should be brought about and rendered compulsory by stringent statutory enactments, or by a strong public opinion, or by the watchful care and persistent importunity of local societies of intelligent pomologists, or by all of these agencies.

Many of the intelligent, experienced and progressive California orchardists also seem to be derelict in contending against the spread of injurious insects. They do not vouchsafe to the subject the importance it deserves. They do not realize that unless prompt and vigorous preventive measures are pursued their property is constantly deteriorsting. It is not enough to wait until the cuemy appears and appreciable damage is done before action is taken. A "preventive is better than a cure. The orchardist should be untiring in his warfare." He should disinfect and spray upon knowing the threatened danger, and that too with the same regularity that he prunes and cultivates, regardless of labor and almost regardless of expense.

The continuous and necessary custom of transporting scions and nursery trees to and from all parts of the country, of itself foreshadows the danger, and the unwritten history of scores of dilapidated and rained orchards in many parts of the State fully demonstrates it.

The frequent and instructive meetings of this and other similar organizations attended by fruit growers, bring home to their minds a full and ample knowledge of remedies, and they should be applied with alacrity. The cost is inconsiderable compared with the benefit.

I believe that with a unity of section and with a wholesome individual energy on the part of the fruit-producers, the prevalence of injurious insects in California will be materially lessened, and they may be exterminated.

One of the biggest-if not the biggest drink on record was the mighty bowl of punch made at the house of the Hon. Edward Russell (Commander-in-Chief of the English forces in the Mediterranean during William the Third's reign) on the 25th of October, 1694. A fountain in the garden did duty for a bowl. This fountain was in the center of four paths, which were all arched over with lemon and other trees. Along each path tables were placed the whole length, and were covered with cold collations, etc. The ingredients of the punch in the fountain were: Four hogsheads of brandy, eight hogsheads of water, 25,000 lemons, twenty gallons of lime juice, thirteen hundred weight of Lisbon sugar, five pounds nutnegs (grated), 300 toasted biscuits, and a pipe of Malaga. A large canopy was erected over the fountain as a protection against rain, A little boat was built expressly, in which a boy rowed round and round the fountain filling the cups of the company, which exceeded 6,000 in number .- Ex. 6,000 in number.-

#### A WONDERFUL INVENTION

#### The Practical Application of the Phonograph Hinstrated.

About a dozen interested persons assembled in the office of the Pacific Edison Phonograph Company, at 323 Pine street, San Francisco, last week, to abserve the workings of the wonderful talking-machine invented by the Wizard of Llewellen Park, Orange, N. J.

The little company had gathered in response to invitations from President John I. Sabiu, and was composed almost entirely of newspaper men.

Mayor Pond dropped in during the exhibition of the accomplishments of the innnimate conversationalist and expressed both wonder and pleasure.

The mechanism of the phonograph has been repeatedly explained in the public prints, and the object of yesterday's private exhibition was to show the uses to which the invention may be put. That these uses are numerous and of practical value was clearly demonstrated.

Cornelius Nestar, an expert from the Llewellen Park laboratory, who came out to this city to explain to the managers of the new company, which has taken hold of the new invention, all its mysteries, was present, and in a basiqess-like manner proceeded to enlighten the spectators.

THE BEAUTIFUL LITTLE MACHINE.

The phonograph, which is a small instrnment not more than eighteen inches in length by about eight inches wide and six inches high, occupied a position on a table in the company's front room. By looking at it the observer could gain about as much information as to its wonderful properties as he could gather by gazing at a telephone box on the wall. It looked as damb as an oyster and not more intelligent. But when it had opened its batteries into the ears of the listener, it proved as valuable as Bob Ingersoll on the rostrum.

"Now, gentlemen," said Mr., Nestar, "how shall I introduce you to the phonograph? As members of the press? Yes, that will do,"

"Phonograph, these are members of the press. They desire to speak to you."

Several reporters were then called up and asked to speak to the instrument through the medium of a mouthpiece attached to the phonograph by a guttapercha tube. They were not very communicative, however, and Nestar took the tube and poured into it a volume of rapidly spoken, but distinctly uttered words. A verse of "Mary Had a Little Lamh" was repeated in several voices with varying intonations, including side remarks, facetions and otherwise, laughter, coughs, etc. Then the scribes were called upon to listen.

Three flexible rubber tubes were attached to the machine, They were about four feet long, the outer end of each forming Y. At the ends of the prougs of the Y were small glass bulbs, which the listener placed to the ear, one in each ear. By this contrivance the tube hung from the head without being held, leaving the hands free for writing.

"YOU HAVE THE RESULT."

"Now, I turn this handle," said Nestar, "and you have the result."

The result was truly astonishing. There was no uncertain sound about it. Just as loud as the reporters and Nestar had spoken, the phonograph spoke. Not only

intountion and accemuation came back. clear and distinct.

The test occasioned considerable merriment, Mr. Nestar's witticisms having apparently gained considerable humor by transmissions to the machine.

Then President Sabin came in and read a number of business letters to the phonograph, and the instrument repeated them verbatim, and as often as desired.

"Now," said he, "you will understand the utility of the invention when I tell you that I have only to remove this wax eylinder, to which these letters have been transmitted, give it to our typewriter and have her answer them according to instruetions, which could also have been transmitted, or have her copy them. If copies were desired, all she would have to do would be place her cylinder on her phonograph, put the tubes to her ears, start the instrument and copy at its dictation. Each cylinder will receive 1,000 words, or a talk of eight minutes. When a cylinder is fall, it can be removed and replaced by another, If when copying from the machine, a word is lost, the type-writer has only to touch a treadle under the table with her foot, and the phonograph will stop, the evlinder will move quickly backward, and when her foot is removed the forward movement will be resumed, and the word or words repeated. This may be done as often as desired."

USES IN BUSINESS

"I read my mail to the phonograph, give my instructions for answers, and hand the cylinders to my type-writer, and my basiness is finished.

"That is one of many business uses. There are other more entertaining ones. The machine has been perfected to such an extent that we can take public speeches, operas, songs by great singers, and reproduce them at home if we have a phonograph there. I will let you hear a grand march, played by a band at Orange, N. J. Here is the cylinder."

The little round piece of wax was placed in the phonograph, and the listeners heard as fine a rendition of "The Rognes" March," by a brass band as they, perhaps, had ever heard. Discarding the tubes and plucing a large funnel-shaped pasteboard contrivance to the instrument, Mr. Sabin sent the cylinder through again, and the music was plainly audible to a dozen persons around the table.

With the tubes it was as loud as if the band had actually been in the same room.

Mr. Sabin had explained that the march had already been produced from the cylinder hundreds of times,

"When the phonograph is in general use we will have cylinders containing songs by star singers, band music, speeches of great orators, taken exactly as delivered, on sale at our offices. Then, if you have an instrument, and you failed to hear Patti sing "The Last Rose of Sommer," you can go down town, buy a cylinder and return to your house and hear the song as often as you like. The reproduction is identical with the original.

EFPEODUCING SONGS AND SPEECHES.

"We can now take a song, a speech, an opera, or orehestra, or band music, by means of this funnel at a distance of sixtyfive feet.

"We have also mailing cylinders which may be loaded, folded and sent through the mails. You can take all you want in San Francisco, and as fast, and then send vonr voluminous correspondence to vonr was every word reproduced, but the voice, friend in the East. We also have a system and money and a failure to realize in-door culture.

for daplicating cylinders. That is, after filling a cylinder we can have so many more of them made as we desire for sale or other purposes.

"The phonograph is expected to do away with stenographic work, and to prove a labor-saving machine. They will he leased for \$3,33 each per month,

The North American l'honograph Company has acquired control of the phonograph, and has transfered the use of the instrument in California, Nevada and Arizona to the recently organized Pacific Phonograph Company, of which Mr. Sabin is President, Major Frank McLaughlin of Oroville is Vice-President, Andrew White Secretary and Louis Glass General Manager.

The capital stock is \$2,500,000, and all of it has been taken .- S. F. Examiner.

## PLANTING PRUIT TREES.

A common error, observes the American Agriculturist, in planting fruit trees is in setting them too closely, especially apple trees. The South suffers more from this practice than any other section. The reasons for this suicidal policy are ignorance of natural laws governing the growth of vegetation, the persistence and persuasiveness of canvassers who wish to sell as many trees as possible, and the ambition to have many varieties on a small plat of ground. The evil effects are not perceptible at first. While the trees grow rapidly and the roots are comparatively small, no bad results are apparent. But when the trees have come to the bearing age, the result disappoints and disheartens all who are led into this fatal blunder. In the South where the warmth and supshine demand more moisture and plant food to sustain the tree during a long period of growth, together with fruit production, trees and vines should be set so as to avoid the rohbery of either moisture or plant food from one tree by another. Where trees or vines are planted so closely that the roots interlace each other, the effect during a proracted drought is disastrous.

A promising orchard of 300 trees, the property of a neighbor of mine, just be ginning to bear, on which the owner realized \$900 last season, was sacrificed to this close planting policy. The trees, which one year ago showed evidence of health and vigor, have assumed a sickly appearance. Cutting out every alternate tree. with a liberal dressing of fertilizers, will save the orchard if the owner has the intelligence and nerve to do it at once. what a loss to the soil, this production of 150 trees which can only be "cut down and cast into the fire," and the "survival of the fittest" will be set back two years at least by this plan of planting and then thinning an orchard. The apple tree demands a rich moist soil. If these conditions are furnished, it assumes large proportions and gives immense yields. Why, then, dwarf, starve and mutilate? Is it not better to have five thrifty trees producing fifty bushels of healthy fine fruit than fifty bushels of wormy, knotty, gnarly specimens fit only for pigs and thieving vagrants? In the latter instance the soil is taxed to produce the wood of fifty trees instead of five. The cost of purchasing, planting, etc., all contributes toward swelling the contrast in the amount paid out. In the first instance you will be rewarded with satisfactory results; in the latter there will be disappointment, loss of time

when your orehard comes in bear-The same results comparatively. ing. though not so rapidly, manifest themselves with regard to the vine. Too close planting will sooner or later result disastrously. The proper distance for setting apple trees is from thirty to forty feet; for the grape not less than fourteen to eighteen feet for vigorous growing vines. Of coarse, methods of training, root-pruning, top-dressing, etc., will modify these figures with regard to grapevines, but better have them too far apart than too closely crowded.

#### MUMMIES AS MEDICINE.

Among the standard medical books of Naremburg of 200 years ago are "portions of the embalmed bodies of man's flesh. brought from the neighborhood of Memphis, where there are many bodies that have been boried for more than a thousand years, called Mamia, which has been embalmed with eastly salves and balsams, and smell strongly of myrrh, alses and other fragrant things."

The learned ductors of France, Germany and Italy all made great use of this eccentric drug, and in the Seventeenth Century grievons complaints arosa from its adulteration. Monsieur Pomet, chief apothecary to the Freuch King, records that the King's physician went to Alexandria to judge for himself on this matter, and, having made friends with a Jewish dealer in mummies, was admitted to his store house where he saw piles of bodies. He asked what kind of bodies were used and how they were prepared. The Jewinformed him that he took such bodies as he could get, whether they died of some disease or of some contagion. He embalmed them with the sweepings of various old drugs, myrrh, aloes, pitch and gums, wound them about with a cere cloth and then dried them in an oven, after which he sent them to Europe and mar. veled to see the Christians were lovers of such filthiness. But even this revelation did not suffice to put mummy physic out of fashion, and we know that Francis the First of France always carried with him a well-filled medicine chest, of which this was the principal ingredient.

A traveler also records how one of his friends found in the tombs at Chizeh a jar carefully sealed, which he opened, and found it to contain such excellent honey that he could not resist eating a good deal of it. and was only checked in his feast by drawing out a hair, whereupon he investigated further and found the body of an ancient Egyptian baby in good condition and adorned with jewels. He does not record how he enjoyed that meal in retrospect. Imagine dining off the honeyed essence of a baby Pharoh!-Nineteenth Century.

## ORCHIOS.

There are several varieties of orchids that can be easily cultivated in the window garden: the time is not for distant when among other flowers growing in the pullors, we shall see the grotesque slippers and hutterflies of the air plants. The baby orchid, so named by Professor Marsh, of Yule, is among the most eurious. On the inner part of this flower, which is really Odonglossom Grande, is a perfectly formed boy, with chubby legs encased in yellow and red-stigled tronsers, lying under the wings of the parent blossom. Because orchids are so clean, the plants being attached without any soil, to a cork or piece-of pottery, will make them particularly desirable for

#### GER PAPER.

## its Merits and Prosperity Discussed by the Youngest Apprentice.

THE MERCHANT, which is the only vitientined paper published on the Pacific Coast, is owned and issued by the firm of Hughes & Co., who by years of labor and patience have increased its circulation to many thousands of copies, which are widely circulated all over- the United States, and especially in California, Oregon and Nevada.

The office is situated at 511 Sansome street, and facing the East. There are three different lines of cars passing within a block; with one line passing the door. As the Post Office, Custom House, and Gov. ernment Appraisers' Building are in this locality, it is, therefore, in one of the best husiness portions in the city.

As you go into the office to your right is the composition room, which is in the eastern end of the building, and is well lighted with the ventilation perfect.

Besides printing THE MERCHANT, the firm does all kinds of book and job printing. It has a complete assortment of type. is fully equipped, and turns out its work with neatness and dispatch. During the last year this office has printed any amount of circulars, programmes, and advertisements, which were highly satisfactory to its many customers.

The visitor after apending an interesting half hour in seeing how the paper is set up in type and put in the form all ready to go to press, is well satisfied that a good deal of time and labor are employed in getting ont a paper like THE MERCHANT, and is now ready to pass into the press-room. This contains five Gordon presses and four cylinders of the latest manufacture. power used is furnished by the Commercial Steam Power Works,

The employees of the composition room are paid by the piece, and those in the press-room by the week.

After being printed THE MERCHANT is sent up to the bindery where it is folded addressed and mailed. It is a sixteen-page paper, issued every two weeks, and contains both reading matter and advertisements. Tho type used is brevier, thus admitting a great many articles on different subjects interesting to both old and young.

Ever since its publication at this office it has been protesting against loreign wines and ever ercouraging the wine industry of this State, for which, see THE MERCHANT in one of its recent issues. "California is amply provided with both soil and climate to produce the finest wines that ever graced the table of a lord." It also publishes many articles on vineyards and orchards, which are of interest to the doctor, lawyer, and mechanic, as well as it is to the vine. yardist and oreherdist.

THE MERCHANT is sent to subscribers at the rate of \$3.00 for one year, and six months for \$1.75, postage paid, and delivered by carriers to subscribers living in the city. It will be sent to any part of the United States or Canada for the above rates. Subscribers residing in foreign countries can be farnished with this paper at \$3.50 per annum, which is one-half dollar more than to local subscribers.

Last week it gave a full account of the Investigation made by the Viticultural Commissioners into the cause of the "grape rot" which has been threatening the grape vineyards of Los Angeles and adjacent conn-

Those who are interested in the welfare and pro-perity of California, and who believe in growing and maturing our own wines and vintage, should at once subscribe for THE MERCHANT, which gives in very issue experiments, facts and trials pertaiting to the orange, olive, fig and almoud: also how the wine and raisin industries are increasing each year.

" ABCHIE,"

## ---CELERIAC.

This veg-table, writes a correspondent of the Germantown Telegraph, resembles celery in form of leaf and habit of growth, but, unlike it, requires no earthing up or blauching as does celery. As a market erop I find it quite profitable. I think fully as much so as celery, as it requires no banking. It may be set in rows two feet apart an t six inches apart in the row, and if set m rich land in June will grow to good size by December. It can be set-later, of course, but I much prefer the plants to be arly s t, as they get a good hold in the soil before the hot weather comes on. Experimenting with different methods of mannring, I have come to the corclusion that the best methods for good roots is to have the manure under the row and somewhat below the plant, say lour inches. By this method the roots take a downward growth and make a root free from " spraggles," as they will be sure to grow if manared on or a ar the surface

I prefer the apple shaped celeriac to any kind I have tried on this account. It has a clean, smooth bulb of good size in comparison with the older sorts, and if manured as is proposed will grow with most of the roots on the lower part of the bulb. This root is harvested and wintered much like celery, and will keep well or better than Even after the top has disappeared the root still holds good. Hard frost is injurious; a temperature below 40 degrees will insure longer keeping than il kept warmer. Roots three inches in diam eter are full sized though larger ones can

To prepare for the table a favorite way is to boil the cleaned root till tender, and then thinly slice it for a flavor among cold boiled potatoes for a salad. Other methods of use suggest themselves to those who like this flavor in salads, dressings, grav-

#### TO PROMOTE FORESTRY.

The State Board of Forestry has lately issucd a bulletin (No. 5) calling the attention of our citizens, especially farmers and irrigators, to the ascininess of mountain lorests. not only as sources of timber and fuel supplies, but also in hindering the flow of surface water, retaining the rainfall in nature's reservoirs, tempering the violence of winds and regulating temperature. In view of

the value of the woodlands in these regards, the reckless denuding of California watersheds by ax and fire is deplored, and the aid of all good citizens is asked in preserving the forests from timber thieves and conflagrations, and securing State support for the work of the board in experimental stations and otherwise,

To this appeal the Merced Board of Trade has responded in the following timely preamble and resolutions:

WHEREAS, The preservation of our mountain water supply is of supreme importance to the agriculturists and irrigators of the interior of this State; and whereas, the integrity of this water supply is mainly dependent on the preservation of brush and timber lands of our mountain water-sheds; and, whereas, the native timber and fuel supply of the San Joaquin valley is wholly inadequate to supply the demand; therefore be

Resolved, By the Merced Board of Trade, that the attention of the Governor and Legislature of this State be respectfully called to the efficient and conscientions work of the State Board of Forestry in the preservation of our mountain watersources; and

Resolved. That this Board particularly asks for a generous support for our forest exper mental stations as tending to encourage and promote general forest planting, and adding beautiful places of resort to the attractions of this State.

# EAST BOUND THROUGH FREIGHT.

Forwarded by the Southern Pacific Co., December, 1888.

STOCKTON. MARTSVILLE ARTICLES. SAN FRANCISCO OAKLAND. Los Angeles. CHLTON. SACRAMENTO. SAN JOHE. Books and Stationery ..... 3.430 20,350 170,230 107,020 7,970 1,525,850 167,000 \$49,970 3,874,850 55,770 18,510 6.360 47,530 69,460 564 900 93 7981 166 426 igard. lothing, California Manufactured 3,750 Drig Goods Empty Packages Fish Pickled Fruit, Dried Green Deckloous 25.650 557.810 167,060 133,240 280.350 Fuse.
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Machinery
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Mobair 34,550 181,620 11.880 378,080 212,570 6,640 129,640 0,390 34 900 50,140 18,910 3,370 9.000 65,510 4.610 Mohair Mohair Mustard Seed. Nuts. Oils Oil Cake. Ores. Potatoes. 30,280 20.430 27.150 55,420 68,920 68 (50) Powder Quicksilver Raisins 95,010 95 000 171 070 52,140 49,240 91,100 452,550 9,970 26,039 831,010 120,000 1,711,330 29,100 Silk. Silk Goods ... Skins and Fars 8,050 25 280 1,050 157,770 65,250 033,580 34,120 1101.000 12.100 2.340 1,066,480 2,500,070 322,600 2,121,030 51 (1, 454) 5,230,170 19 (99) 13,027,590

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San Jose, 5,233,170

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FRIDAY.....JANUARY 18, 1889

THE STATEMENT OF Professor Husman at the Convention of Grape-growers held recently in this city, while doubtless made in good faith and with the best intentions, in nevertheless couched in a tone of alarm caloulated to have a contrary effect.

Diseases exist in many of our vineyards, and probably will so long as vinea are grown. They are general in the older wine producing regions of Europe. There is nothing strange or new in the development of the different types, and with the exception of the mysterious plague now raging down south, the cause and cure has been thoroughly stodied and widely disseminated for the instruction of vineyardists.

To advise the pulling down of an entire city because a fire happens to destroy a block, with the possibility of another and more general conflagration would be flouted as ridiculous, yet attention is given to suggestions that the only way to eradicate a casa of hylloxera is to root up all the vinea in a district.

Cooler judgement will however, ultimately prevail, when vineyardists recover from the first shock occasioned by alarmist theories and depend for the safety and health of their vines on the application of proper remedies obtained from practical results of experimental tests.

There is little to be gained by deploring the situation, or painting it darker than it eally is.

SOMETHING TO REMEMBEE—A novel matter of locating a leak in a water main was employed recently at Rochester, New York, with entire success. The break in the main was known to he between the banks of the river. A solution of bi permanganate of potash was introduced at a hydrant on the side of the river nearest the reservoir, and observers were stationed on the river along the line of the main. A deep reddish porple discoloration of river-water at one point soon made the exact location of the leak apparent.

It is reported that a shipment of two tons of Zinfandel grapes will be made to France from this State, that Bordeanx wine makers may test their value as a wine grape. The following is a summary of Bonfort's latest advices from European vineyards:

"The German vintage is finished, and, owing to the extraordinary changeable weather from April to October, the result is far from being satisfactory. The bloom ing went off well enough, and at the begioning of July, the best hopes were entertained for a good year, but towards the end of that month cold and unfavorable weather set in, which continued at intervala up to the time of the picking. As would naturally be supposed, the vintage of 1888 will never be a distinguished wine, it is generally unsatisfactory with an excess of acid and a lack of saccharine. These peculiarities are more particularly marked on the Moselle and the Saar, although the situation is not much better on the lower Rhine and the Nahe, and in the smaller places of Rheinhesse and the Palatinate. In the better localities of Rheinhesse, such as Nackenstein and Nierstein, the yield is much better. The same remark holds good for the best localities in the Palatinate, such as Deidesheim, Forst, Wachenheim and Durkheim."

While the renewal of the reciprocity or commercial treaty with Franca remains in abeyance, a great falling off in the export of wine from Italy to that country is inevitable; hence the late meeting of producers and exporters in this city on the 2d inst., at the instigation of Signor Grimaldi, the Minister of Agriculture and Commerce, and the conclusions there arrived at to form a company which is to push the sale of Italian wines abroad, on whose capital the Government is to guarantee the interest of 2 per cent. silver; the granting of an export bounty of 2 francs per hectolitre to all who ship in a year over 500; hectolitres; the creation of a Credit Bank specially in the interest of the wine trade, and finally, reduced freights by rail and ocean steamers.

There has been a good deal of animation at the French vineyards in spite of the nearness of the close of the year, especially in classified Medoc growths which the trade is buying extensively; soon there will be hardly any left.

Really desirable Spanish wines continue tending upward, and are now considerably higher than what they were at the commencement of the campaign. They are comparatively scarce throughout the peninanla, and in active request.

A convention is about to be held in this city at which all the raisin men of California, growers, packers and dealers will be gathered.

The convention will have for its object the giving of a distinctive individuality to our crop and the improvement of the pack. The following are the changes proposed:

"First-To adopt a uniform system of grading and packing.

Sccond—The establishment of gradea to be known sa California Selected Bunch and California Selected Clusters, to take precedence over our present high grade known as 'London Layers' and 'Dehesa Clusters.'

Third—Remodel what we now term London Layers, dropping the word London and substituting the word California, making a grade known as 'California Layers.'

Fourth—To drop entirely the Spanish emblem which we now use, the 'Crown,' and substitute in its stead the 'American Esgle,' or 'Star,' establishing grades known as 5 Eagles, 4 Eagles, 3 Eagles, etc. Fifth—To abolish the system now in vogue of contracting for vineyards, taking the entire crop of all kinds at one price. The grower who takes extra care and pairs in cultivating and producing fine large fruit, especially fine bunches and clusters, should receive proportionately more money for his fruit than the grower who is negligent and delivers small fruit and scraggy bunches.

Sixth—To consider the proposition of buying by months as was talked of last year. The grower should receive more money for his early deliveries than tor his late deliveries. Raisins delivered in September and October are worth more money to the packer than raisins delivered in November and December."

The success of last year and the high standard our raisine have in consequence attained in foreign markets is sufficient justification for an exhibition of self-pride on the part of the grower.

THE Evening Post in a recent article on the labor queation which is now being agitated throughout the State, draws a comparison between the extravagant size of our vineyards and those of the celebrated wine paoducing sections of the old world. It says: "One would have to travel many days in France to find a vineyard of more than three hundred acres, and for one of that size he would find a hundred less than thirty acres, while in California vineyards of from 600 to 3,000 acrea are not uncommon. The famous Clos de Vougeot vineyard, from whence comes the wine of that name, is the largest in that district, yet it only contains 120 acres, much of which is poor land and unfit for use. The famous Chamberlin vineyard is just twelve acres, and the Romanee Conti vineyard six and one-half acres. The Richebourg, Corton, Tache, Romanee de St. Vivant, Nuita, Volnsy, Pommard, Beaune, Vosne, Chambolee vineyards are all in the Cote d'Or district on the southern exposura of a ridge of hills less than two miles long; in fact, the whole famous Cota d'Or district is only thirty-six milea long and less than a mile wide, and contains thousands of vineyards."

The neport of Varney Gaskill, Secretary of the Railroad Commissioners, shows that the total miles of roads in California, reporting to the Commissionera in 1888, were 3,441, of which, 2,988 were broadguage, and 453 miles narrow-guage. This shows an increase of 317 miles, or 9 per cent. over the preceding year. There were thirty-four roads incorporated during the year—twenty-one in Los Angeles and San Diego counties. The property accounts of the companies show a footing of \$343,511,940,

The largest sailing vessel afloat was launched last week at Port Glasgow; she is a four-mnated iron ahip, named The Liverpool, of 3,300 tona register, being 125 tons more than the Palgrave, hitherto the largest sailing vessel. The Liverpool will carry 5,000 tons of cargo, dead weight, on Lloyd's freeboard.

A recipe for figa à la créme, described as a choice table delicacy, is thus given:
Take the best figs, split a dozen, but do not divided them. Heat them thoroughly between two plates, and jost on the point of serving put on each a dessert-spoonful of whipped cream.

Suba

According to American Notes and Queries, in one of the wine cellars of the Rathskeller, at Bremen, there are twelve large cases of wine, cach case containing "the celebrated 'Rosenwein,' which was deposited there in 1624. One case of this wine, containing 204 bottles, cost 500 rix dollars at that time. Taking all expenses into account and compounding the interest, a single glass, one-eighth of a bottle, would cost about \$300.000.

THE Malaga grape cropis abort this year, and only 150,000 barrels are coming to this country, in place of the 300,000 barrels that were expected. A single storm destroyed 100,000 barrels of the fruit. The crop of native fruit was so large that the Malagaa will not be missed.

In answen to the announcement made by the Director of the Agricultural- Experiment Station in 1887, there were received applications for 3,992 packages of seeds and plants, and the material on hand permitted the distribution of 3,082 parcels,

ROBERT BARTON, the prominent raising grower of Fresno, has just returned from Europe, and Mesara. Forsyth and Butler are now en route for the "Mecca" of all wealthy Americaus. The latter gentleman will visit Spain for a graduating course in the process of raisin curing.

The ranch of Eli T. Sheppard, consisting of 400 acres near Souoma, st. including a winery, distillery, and 80,000 gallons of wine and brandy, was recently sold to Senator Hearst. The deed does not state the correct consideration, but it is athought the price paid was \$80,000.

## WHOLESALE MARKET,

Quotations given are for large lots to the whole sale traje.

CALIFORNIA RAISINS.

Halves, Quarters and Eighths. 25, 50 and 75 cents bigber respectively than whole box prices.

Loodon Lay	ers,	choice p	er box	<b></b>	82	00@		
**	" fo	ncy '	4 11		2	000	2	25
Layers, per								
Loose Musca	ıtels,	commo	n, per	box	1	400	1	50
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		CANNE	ED ORS	PES.				

Grapes, Muscat, 2½ bs. \$ 1 40@ 1 50. Galls. 4 50c

## Sugar Quotations,

California Sugar Refinery price list dated January 3d; Circle A. Pat Cube, 6%c Circle A Crushed, 6%c; Fine Crushed, 7%c; Extra Powdered, 6%c; Dry Grannlated, 6%c; Confectioners' Circle A, 6%c; Extra C, 5%c; Golden C, 5c; Star Drips Syrup, in bbla, 17%c; hf do, 20c; 5-gall kegs 25c; 1 gall tius, 35c per gallon.

Price list of the American Sagar Refinery dated January 3d: Extra Fine Cube, in bbls, 634c; Circle A, Crushed, 674c; Fine Crushed, 674c; Powdered, 674c; Extra Fino Powdered, 74/c; Dry Granulated, XX 64/c, Dry Granulated, XX 64/c, Confectioners' Circle A, 63/c; Extra C, 53/c; Golden C, 54/c, American Golden Syrup, in bbls, 20c per gallon.

Subscribe for the MERCHANT,

#### THE WINE EXCHANGE.

#### Opening of the New Headquarters of the Vittentiural Commission.

A large gathering of people interested in viticulture assembled in Platt's Hall on Tuesday morning last, to witness the ceremonial opening of the permanent exhibit of California wines.

The hall has been renovated and especially fitted up for its new use. Visitors assembled in the center where chairs were arranged for them. On the right hand are the offices; on the left the cafe where pure California wines are to be sold. All about on wire stands are wine exhibits and engravings and lithographs of grapes and wine-making processes. A patent brandy still that reaches nearly to the gallery attracts attention, while a vender of fresh grape must, or unfermented juice, compels attention to himself and his product. This must is now being made by the Purity Wina Company of this city, who claim great things for this "grape cure." The juice is pressed from grapes which have been kept fresh by a process of cold storage.

J. De Turk of Santa Rosa, Vice-President of the Viticultural Commission, presided. On the platform with him were Mayor Pond, Dr. Harkness, Professor James Denman, Arpad Haraszthy, Charles Krug of St. Helena, George Ilusmen of Napa, Charles Bundscho of the Wine Dealers' Association, and Executive Officer J. H. Wheeler. Mr. Da Turk, after a few words of welcome, introduced Mayor Pond. That gentleman spoke of his purely theoretical knowledge of the wine-making industry, and expressed his opinion of the great value of the present project. Following him Mr. Haraszthy, the former President of the Commission, spoke of the growth of vitienlture in this State, and of the object of the present headquarters.

Commissioner L. J. Rose of San Gabriel. spoks at some length of viticulture generally. The present project can only be successful through mutual forbearance and indulgence on the part of Commissioners and producers. In his judgment, present troubles in marketing grapes are due chiefly to the fact that there is more production than consumption and not from any fault of dealers. He considered that possibly present troubles may be regarded as part of the education of the wine-maker. He expressed confidence that the industry will become one of the greatest in the State. The recent purchase of his place by an English syndicate was referred to. The company is finding its best market in England, and there Mr. Rose is confident is one of the best markets offered to California wine producers. The great need of ceping up to a standard of excellence was emphasized.

Mr. Krng in his remarks noted that while from different causes wine production here has been decreasing somewhat, the consumption is increasing and consequently better times may be hoped for by producers. He hoped the exchange would be a medium for causing harmony between merchants and producers,

Professor Denman hoped the exchange would be a place where samples and cases would conform in quality-a thing it had been difficult to scenre. He considered good wine a valuable aid to the temperance cause, as a substitute for strong drink,

Professor Husman said the present project is the fulfilment of a plan which he MEACHANT we quote the following:

had long had in mind. He heped it would result in aiding true temperance, for true temperance makes men happier and better. He referred to the fact that in 1816, he had planted vines, and considered them almost the beginning of the great industry. As a representative of the Department of Agriculture, he has been commissioned to secure a wine exhibit for the Paris Expo. sition, and he asks co-operation in this work from the various producers.

Mr. Bundschu and Mr. Wheeler also delivered brief addresses. After the exercises the cafe was well patronized. The hall will be open daily, and all interested in viticultura are invited to call there.

#### FRASER ELECTRO MAGNETIC PROCESS.

A letter just received from Mr. J. Pignet, Dijon, France, communicates the fact that the Fraser Electro Magnetic Process for developing wines has been submitted to a conference of the best experts in France with most flattering results. The letter states:

"The result of the examinations is a anceess for you and for your process. 1 consider the result of this meeting to he very important for us, because the experts gave their opinion on very different productions, i. e. wines can da vie and fabricated liquors."

This process in the hands of the Purity Wine Company of California, is meeting with great success, and many viticulturists have already contracted to have their last season's wines treeted.

## THE PRESCH VINTAGE.

Edmund Yates says, in the World; "The French vintage last year was a larger one than has been since 1880, but it is rather disappointing to note that the yield was the largest in the southern districts, which produce the common wine of the country, while the Burgundy and champagne dis tricts were badly favored, both as regards the quantity and probable quality of the vintage. It is true that the Bordeaux vintago is very much larger than it has been for some time, but, considering that more than 150,000,000 gallons of wine were imported into that part of Franco from Spain, the prospect of getting pure claret, as we eall the Bordeaux wines, is not much improved. France has, since the appearance of the phylloxers, become a wine-importing country, for, while fourteen or fifteen years ago the imports were only 13,000,-000 gallons and the exports 70,000,000, the former now exceed 250,000,000 gallons, while the exports dropped last year to less than 50,000,000 gallens."

## DISTRIBUTION OF PLANTS.

E. W. Hilgard, Director of the agricultural experiment station of the University of California, has issued his annual bulletin announcing the distribution of seeds and planta. Applications should be made immediately as they are filled in the order of their receipts so long as the supplies last, Applicants are requested to send the amount specified in connection with each description, as there is no appropriation available to meet the expense of postage and packing. Among the descriptions which are of interest to the readers of tho

Resistant Grope Vines .- Cuttings of the following species of Vilis can be had: 1, Cinera. 2. Aestivalis. 3. Cordifolia. 4. Candicana. 5. Riparia. 6. Arizonica. 7. Californica. 8. Monticola. 9. Novo Mexicana, 10, Rupestris. Vulpina, 12. Romaneti. 13. Spinovitia Davidii. Sent in lota of 10 of a kind; 10e. per lot, or a dozen assorted, 20c. by mail.

Fruit Tree Scions,-The University orchard contains upward of 500 named varieties of fruit, and our report of 1886 contains, on pages 130 to 140, tables in which are succinctly recorded observations on apricots, applea and pears, growth of tree and quality of fruit, time of ripening, keeping quality, etc. These observations cover a series of years and indicate that some varieties are worth a trial in other parts of the State. Applicants may order any of the varieties named in the report. We do not furnish rooted trees, but scions for grafting. We do not send large quantities of any variety, because the object is to test varieties and not to furnish material for commercial propagation. Send 10c, for each dozen ordered.

Olives,-Though several improved varieties of the olive are now to be had from our leading nurserymen, we have a lot of Nevadillo blanco which we will send to those who desire a few trees to experiment with. It is a medium sized elive of oval shape, ripening early. Three plants to each lot; 25c per lot by express.

Mulberries, -- Cuttings of the following kinds can be had: 1, Multicaulis. 2. Alba. 3. Russian. 4. Downing's Everbearing, 5. Lhoo, 6. Nagasaki, Sent in lots of 10 of a kind; 10e. per iot, or 12 enttings assorted, 20c, by mail.

Dyer's Madder (Rubia tinctoria.)-The report of the efficacy of ground madder root when applied to vine roots for phyt. loxera may induce some to grow the plant for experiment in that direction. The leaves are said to be good for forage. Seed in small packages; 2c. each.

Pyrethrum (Insect Powder plant.)-The Dalmatian (cinerariofolium) and Red (roscum) in 2-oz. packages; 2c. caeb.

All applications should be addressed to E. J. Wickson, Berkeley, Cal.

## SEEDLINGS OF SUGAR CANE.

The sugar cano has been cultivated for so long a period that its native country is unknown. Bentham states that "we have no anthentie record of any really wild station for the common sugar cane." Further, according to the Kew Bulletin for December, the sugar cane so rarely produces mature seeds that no one appears to have ever seen them. In botanical works the subject is often mentioned, but apparently only to restate the fact that observers in all countries " have never seen the seeds of the sugar cane." The authorities at Kew have been working at this subject for several years. It was felt that if a sugar cane producing ripo seeds could be found, a most interesting and important line of enquiry would be opened for improving the saceharine qualities of the sugar caps in the same way as that so successfully adopted with regard to the beet. Hitherto the augar cane has been reproduced under cultivation solely by means of buds and suckers. The improvement of the cane has therefore been restricted to chance variations occurring at wide intervals, and probably escaping altogether the observation of the planter, next convention to be tested,

Now all this is likely to be changed. appears that at Barbados seedlings of angar canes have been successfully raised by Professor Harrisen, and among these seed\_ lings are several different kinds indicating hybridity of a definite sort, such as would be expected to arise from the crossing of different varieties. It is to be hoped this aubject will be fully and clearly followed up as a definite field of investigation. In any case the possibility of improving so important and valuable a plent as the sugar cane possesses general interest.

#### LAND PRICES.

Replying to the off-repeated publication of oatside papers that land prices in south California are too high, the Santa Barbara Press says:

"The boom of two years ago inflated. the value of all kinds of properties, especially town lots, in many localities, but it is not true that the whole of Southern California was affected by it. There is good farming land advertised in this county as well as in other southern counties, for sale at from \$50 to \$100 per acre, that will surely double in value in a few years. To effect a sale the first requisite is to find a buyer, the price does not cut so much of a figure; this was demonstrated by the way much property sold in this section during the excitement of the boom.

"There is a great deal more land selling in California to-day than there was five years ago, and yet it is sals to say the prices average 100 per cent. higher than they did then. Buyers for farming lands in the great San Joaquin valley are namerous to-day compared to five or six years ago, yet prices have advanced 300 to 500 per cent, in that time, and a few yesrs hence they will have advanced again, but buyers will be just as pleutiful. It is just as easy to sell a lot to-day in this city at \$1,000 as it would have been to sell the same lot six or seven years ago at \$200 or less. Property will sell when there is a market for it, let the price be what it may, but it will not sell for anything like its value when there is no demand."

## THE PICHOLINE.

In order to test the merit of the so-called Picholine Olive, Mr. Ellwood Cooper, of Santa Barbara, makes the following propositions to growers of the tree: That all those having trees in bearing pick the olives, being eareful to weigh them from the pickers every day; then put some loose straw on the ground and cover with sheets or canvass, elena and without any smell, and not near any stable where the odors could come in contact. Dry them in this way in the sun, not over two inches deep, so that they could not mould or heat. After sofficiently dry to be shipped, send them by express to me at Santa Barbara, giving me the weight of the same when picked. They should be shipped between Christmas and the first of January. I ought to have at least two tons, 4 000 pounds, or not less than two thousand pounds.

I will agree to make them into oil, and if good, will put the same on the market and sell it, paying each party pro rata the net proceeds, which will cover all expenses and more too. I will only charge the actual cost of putting on the market. I will keep a separato tank, made in the same way for the Mission, and will make an absolute test. I will take some of 1 oth to the KRUG CHARLES.
Krug Station, St. Helena, Napa Co., Cal. Producer of fine Wines and Brandies.

SAN FRANCISCO SAVINGS UNION, 532 California street, corner Webb.

For the half year ending with 31st of December, 1888, a dividend has been declared at the rate of five (5) per cent per annum on term deposits, and four and one-sixth (4 1-46) per cent per annum on ordinary deposits, free of taxes, payable on and after Wedtesday, January 2, 1889.

LOVELL WHITE, Cashier.

## The German Savings and Loan Society 526 California Street.

DIVIDEND NOTICE,

For the half-year ending December 31, 1888, a dividend has been declared at the rate of five and one-tenth (51-10) per cent per annum on Term Deposits, and four and one-fourth (4½) per cent per annum on Orlinary Deposits. Payable on and after WEDNESDAY, January 2, 1880

OFO. TOURNY, Secretary.



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On account of ill health and obligation to change climate, I offer to sell, lease or give on shares, my well-known Burgandy Vineyard, situated S. W. of Sauta Clara Ave; the best wine district known, containing 150 acres of level land, and planted in the best varieties. Fifty acres Cabernet; fifty acres Burguudy, and the other fifty aeres in Semillon and Roussellunos, in full bearing or will be so next year.

To responsible parties will give contract for five or ten yesrs. Cellars are equipped with the best steam machinery and distillery; 250,000 of cooperage, oak and redwood. The place must be seen to be appreciated. I am ready to give immediate possession, and will make a positive sacrifice. if applied for at ouco 150,000 gallons of choice wines of vintage of 1886-87-88, may go with the place if so desired.

Apply to

J. B. J. PORTAL,

West Sau Jose,

Three miles from Santa Clara Station C. S. HALRY Secretary.

## FARM FOR SALE.

Two hundred acres in Sonoma County. ten minntes drive from railroad station, Forty acres planted in the finest variety of vines. The balance rich river hottom, and rolling land capable of the highest cultivation. Several never failing springs and plenty of oak and redwood timber on the property. Good hoase, large barn, and out buildings. Scenery, climate and roads unexcelled. Good fishing and hunting in the neighborhood all the year round. One f the most elegant and profitable suburban homes in Northern California,

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FRESNO GROWN TAHITI ORANGE SEEDLINGS,

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MATARO and RIPARI'A CARIGNANE,
CULTINGS \$5 per Thousand.
GRAPE ROOTS AT REASONABLE RATES.

M. DENICKE, - - FRESNO, CAL.

Packed Figs for sale at Tillman & Beudel, Clay and Battery Sts., S. F.

The following is taken from a letter written to Mr. Denicke, by John Rock the wellknown uurseryman and horticulturist of San Jose:

M. Denicke, Fresno: DEAR STR-The figs sent to me to San Jose are very fine, and nothing has yet been produced in California to come any way near them. \* \* Enclosed are orders for twelve additional cases.

Very truly, Joun Rock, San Jose, January 7, 1889.

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POR SEVENTY-FIVE DOLLARS THIS COLLEGE ing, Telegraphy, Penmanship, Drawing, all the English Branches, and Everything pertaining to business, for six full months. We have sixteen teachers, and give individual instruction to all our pupils. Our school has its graduates in every part of the State,:

FSend for Circular.

E. P. HEALD, President

FRUIT AND NUT TREES

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RESISTANT GRAPE VINE STOCK,

Ornamental Trees, Olive Trees,

ORANGE TREES,

AND GENERAL NURSERY STOCK.

All Unirrigated and Free from Disease. Th

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C F.....

88,003

#### NATIVE WINE SHIPMENTS OUR BY SEA.

## PER P. M. S. S. CO'S STEAMER COLIMA, JAN. 3, 1889.

#### TO NEW YORK.

	MARKS,	SHIPPERA.	PACE LOEN AND CONTENTS.	OLLLONA	VALUE
A V		C Schilling & Co	160 barrels Wine	3,709	1,895
	Total amount of Wine			18,541	

## TO CENTRAL AMERICA.

	M V. Puntas Arenas [Eug de Sabla & Co 12 kegs Wine	201	920
	BB&Co, La Liberad Bhom, Baruch & Co   1 barrel Wine	51	31
	5 barrels Wine	25	163
	12 half-barrels Wine	5-1	33
	B T, Puntas Arenas B Dreyfus & Co 15 half barress Wine	315	245
	G D B, Puntas Arenas " I barrels Wine	200	
	6 cases Wine		30
	P.A.A., Puntas Arenas " (60 half-barrels Wine		940
,	J W & Co, Guatemala		135
	V. H. La Libertad John T Wright I balf barrel Wine		
	M M, thamperico Urruch & Urio-te 3 kegs Wine	60	3.5
	Total amount of Wine 36 cases and	1 797	81 547

#### TO MEXICO.

J.M., Mazatlan	2 barrels Wine   544 838
TO	BREMEN.

 A Netter		

#### TO NEW YORK-PER SHIP ROBERT DIXON.

L U & Co	Lay Chark & Co.,	All barrels Wine	2.100	2414643
FZ & CO	C Carpy & Co	27 barrels Wine	1,257	503
J M A Co	10	25 barrels Wine	1.165	466
G	J Gundlach & Co	140 barrels Wine	6.650	2.672
A S & Co	A Schell	100 barrels Wine	4,797	1,919
EB&J	Lachman & Jacobi	100 barrels Winc	19,450	7.780
F A	10	75 barrels Wine	3,706	1.482
& in diamond	*1	30 barrels Wine	1.4344	
C'C in diamond	Kohler & Van Bergen.		7.987	3,195
A B	**	50 barrels Wine	2.451	27%(3
R D & Co	B Drevfus & Co	51! bartels Wine,	24,752	9.901
K&F	Kohler & Frohling	400 barrels Wine	20.138i	8,055
4.0	1.	99 barrets Wine	1.950	1.980
A V Co	C Schilling & Co	250 barrels Wine	11.827	4.731
41		15 casks Wine	1.616	646
Vanvin	Berringer Bros	150 barrels Wine	7,428	2.971
A G & Co	A Greenbaum & Co	200 barrels Wine	9,930	3,972
84	- 0	13 cases Wine		-,
Total amount of Wine,	13 cases and		132028	852,811

## TO HONOLULU-PER O. S. S. Co's, STEAMER AUSTRALIA.

Ad	dress	J Pinet	12 half-casks Wine	071	841
M	М	J Carpy & Co	1 barrel Wine	52	30
- 11	J	Arpad Haraszthy	7 barrels Wine	343	270
	86	0	67 kegs Wine	335	287
	H	**	25 kegs Wine	250	191
	9 E - 9	11	!! Cases Wine		28
F	S	C Schilling & Co	2 casks Wine	122	28 73
W	CP	B Dreyfus	5 half barrels Wine		
	+6		50 kegs Wine	1,013	850
	44	"	75 kegs Wine		
- E 1	I & Co	Kohler & Frohling	2 casks Wine	134	67
	A.e		2 quarter-casks Wine	63	31
	**	11	25 kegs Wine	2500	125
	14	4.	20 kegs W ne	100	50
G 1	V М & Co	Kohler & Van Bergen.	150 kers Wine	750	600
	0.0	1	25 kegs Wine	250	200
Gi	a diamond	JD Gedge	155 kegs Wine	600	637
	Total amount of Wine.	J cases and		3 5051	0.3 1 0/1

## PER P. M. S. S. CO'S STEAMER SAN BLAS, JAN. 12, 1889.

A V Co. C Schilling & Co
KT "   1 barrel Wide
[ DEFFECTS WITHE
K & F Kohler & Frohling. 220 barrels Wine 11,175 5.70
C L. S Lachman A Co 50 barrels Wino 2.500 1.50
A P) Lenormand Br.s. 15 barrels Wine. 746 9
C V Co
UJ Gundlach & Co25 barrels Wine
A in diamond Lachman & Jacobi 15 barrels Wice 769 2:
Total amount of Wine

## TO CENTRAL AMERICA

	The second second	
C P, San Juan del Sur 1 Mecks	1 400/	8200
B & P, Corinto		
P A & Co. Amapala Montealegre & Co 10 cases Wine		
A L. La Libertad		
J M P, Dees E L G Steele & Co 10 cases Wine		71
CAN, Ocea		29
J M, Amajala		
E T, Amajada	45	40
Total amount of Wine, 67 cases and	502	8636

## TO MEXICO

io arosito,				
M Il Mazatlan	Reddington & Co	I half-barret Wine	17.	815
J M, San Blas	J D Meyerink	2 harrels Wine	114	70
H F & Co, San Blas	Thomas Bell & Co	B casks Wine	189	150
W L. San Blan	W Louiza	I casks Wine	230	87
CR, San Blas		I cask Wine	2311	30
		10 barrels Wine	-1060	333
H B, Son Blas	Thannhauser & Co	2 cases Wine		8
A V II, San Blas	**	ā cases Wino		32
C B, San Blas	84	his hear Wine	160	172
A B A U, San Blas	94	I keep Wine	61,	69
A O C, Mazatlan	4.	10 kegu Wibe	360)	92
R E, Tonala	W Loaim	55 cases Wine		250
V F, Tonata	**	20 eases Wino		60
R L, San Blas	**	2 kegs Wine	30	21
P & C, Mazatlan	14	1 barrel Wine	63.8	42
Total amount of Wine	Parent and		1.5 (1)	21.1011

## MISCELLANEOUS SHIPMENTS.

DASTINATION,	VFhat L	8.19.	OALLONS,	VALUE.
Vancouver	Мемео	Steamer	234	810/
Mexico	Sewbern	STARTE A P	121	17
NEXICO	Mejander	Steamer	820.	550
retard	Nylen re	Royk	5.051	2,199
London	11	Back	21341	254
Victoria	Walla Walfa.	Misher	123	11:
China	C y cf New York	St 20107	69	:3
Paper		51-nmer	1346	7.
			1,246	3,040
Bullion	FULL DITT	Markett Drop	1453	39
banta Doneli.	Westmenth	Meamer	5,1%1	1,04
Kaholin	Geo C Perkins.	Parkent ne	50	-80
	Con ucla	Till a comme	49	63
Kahalin	Mary Wiokleman	Barkentine	61	
	J C F7rd	Schooner	25	21
Total	****		14.870	87.134

# Description of the Blueberry.

Grand totals ...... 198,746

The Blueberry is a valuable fruit, and is a reliable fruit to grow in our northern States where the more tender varieties of fruits winter-kill. It is perfectly hardy, having stood 40 degrees below zero without showing any injury to the most tender buds. It ripens in this latitude about the 1st of July, and is borne in clusters like currants; shape, round; reddish purple at first, but becomes a bluish black when fully ripened. The flavor is equal to the rasplerry, a very mild, rich sub-acid, pronounced by most people delicious. It may be served with sugar and cream or cooked sance, and is splendid for winter use. The plant seems to flourish in all soils, and is a prolific bearer, it grows very stocky and makes a nice hedge. The shipning dark green leaves and the blue fruit making a pleasing contrast. The demand for the fruit is great, and usually brings 15 cents per quart. They commence bearing the first year after setting out, at dyields a full crop the second and third year after setting out. They are propagated from suckers and root cuttings. The plant is about the height and size of the currant bush, and very stocky, holding the fruit well up from the ground. Plants should be set in the fall and spring, in rows two or three feet apart, and five or six feet between the rows, making a perfect hedge, and no grass or weeds should be allowed to grow between rows.

#### PRICE LIST:

1 Dezen Plants by mail, 60 cents, 2 Dozen Plants by mail, \$1.00

100 Plants by Express, \$2.50 1,000 Plants by ex. or freight \$15.00

How to send money:—I would prefer to have money sent by American Express order, all sums of \$5.00 and under, cost only 5 cents, and if order is lost, money will be promptly refunded to sender. If not convenient to obtain express order, money can be sent by registered better or post effice muney order or postal note, drawn on Portland, Mich. Postage stamps will not be accepted only from our customers that cannot obtain an express order—only those of one cent decomination wanted.

Plants of mentions of the second of

Plants are carefully packed in damp moss and delivered to express or freight office, for which I make no extra charge. Address

DELOS STAPLES, Portland, Ionia Co., Mich.

## FANCHER CREEK NURSERY, FRESNO, CAL,

OFFERS AN IMMENSE STOCK OF

## Fruit Trees, Grapevines and Ornamental Trees, SPECIALTIES:

White Adriatic Fig. Ten Tested Vorieties of Table Figs, Olives Pomegranates, and also a Fine Collection of Palms. Roses and Oleanders.

I A five-pound box of White Adriatic Figs sent by express to any address on receipt of \$1.50. Send for Fall Catalogue and address all letters to

F. ROEDING, PROPRIETOR, FRESNO, CAL.

OFFICE: 303 BATTERY STREET.

WAREHOUSES: Cor. Eighth and Brannan Sts. CAPACITY: 5.000.000 Gallons



Wines treated under the Fraser Electro M gnetic Process, developing New Wines in thirty days, equal to three year's maturing under the old system.

R J. HARRISON, President.

#### THE GRAPE OF ALMERIA.

Wm. B. West of Stockton, in an article on this grape says:

This is the grade that is seen in the Eastern markets in the fall and winter, packed in cork dust. It is grown near s little seaport on the south-eastern coast of Spain, about eleven hours by steamer, from Malaga. As this grape appears to be grown most successfully in this particular locality to the exclusion of other famous vineyard districts, (for it has been tried at Malaga and found to be unprofitable, the grapes not being so large nor having such good keeping qualities), it would be well to note the characteristics of this locality.

Almeria is situated at the mouth of a river, or what was once a navigable river in the time of the Roman occupation say two thousand years ago, but now filled with debris, with only a rush of water in the winter; it flows through a very hilly country having only narrow banks with little bars and choice warm spots, where this grape thrives wonderfully. It is trained on trellices ten or twelve feet high and is said to bear heavy crops.

These then are requisites for the production of this grape; a warm climate, moist sandy soil and long pruning.

I was in Almeria on the 15th of September, 1878; the floors of the warehouses were full of grapes piled two to four feet deep; gangs of women and boys were preparing them for shipment, which consists in cutting out every unsound grape, and packing them in casks of 25 and 50 ponnds with cork dust. In size they were on an average much larger than our Emporers or Ferraras; in firmness and keeping qualities no grape can equal them, as we often see them in market as late as March; but as to flavor they absolutely have none. I was surprised as I had imagined that they might have been estable when fresh and that the contact with cork dust injured their flavor; but I believe that they actually improve by keeping. Notwithstanding the inferiority of this grape the value of their export some years ago, was three quarters of a million dollars, a large amount going to the United States.

This grape has been introduced into this State and widely distributed, but I see no mention of it in the papers and I suppose it has not generally proved a success. I will give my experience and the experience of a party, whose land is so different from mine, the contrast is interesting.

My soil is a strong clayey loam with a dry subsoil producing excellent table grapes. My Almerias are only medium in size, being about as large as the Ferrara; they are firm and keep well and are a sweet, good eating grape. I have some of them now in good condition, that were picked the first of November; no extra pains were taken with them, they were packed away in a box. The other party has a sandy loam with a wet subsoil (a river bank. His grapes are larger than mine, not so good in flavor and later in ripeniug, so late that the frost usually destroys them; they are more productive than mine, when ripe the keeping qualities are about the same, from this I judge that his soil is more suitable than mine, but being in a frosty locality his grapes are not profitable. We have then to select a sandy loam, and a locality free from early fall frosts, as the grape will ripen about the 1st of November.

As to profit in growing them, except in the right place, there is none, but with the

proper conditions. I think a crop can be secured. My vines have berne an average of teu pounds each. The grapes are worth at least fifty dollars per ton, not a very profitable investment but better then wine

#### EARLY GRAPES.

The remarkable earliness of the lake region of Tulare and Keru counties has been entirely overlooked, says the Delano Herald. Nevertheless this section has advantages as regards earliness not shared by any other part of California. For several years past it has been well known that Stokes valley, in the northern part of Tulare county, produced yearly the earliest peaches-earlier even than Vacaville. From the first mentioned valleys the earliness appears to be on the increase the farther south we go, but begins to decline shortly before reaching Bakersfield-undoubtedly due to the sudden increase in elevation of that part of the valley. Last summer several articles appeared in our California papers commenting on the astonishing earliness of the Salt River valley in Arizona, Musest grapes having reached Los Augeles from the above place in July. Here was then an undoubted rival to California so far as raisins go, and supposing no other drawbacks existed for the successful culture in Arizona. At that time no one in California had any idea that we had here an equally early district-the country comprising the plaius of the north half of Kern and the south of Tulare county; and if the foothills also are considered the region extends considerably farther north. In Mr. Chauvin's vineyard west of Delano, Kern county, the grapes ripen in the end of Jaue or before, and on the 5th day of July this year, Mr. Chauvin began to make wine of his Zinfaudel grapes. The Zinfandel grapes, as I can testify to, were rather over-ripe, and should have been picked a week or ten days heforc. The wine is of an exceedingly dark color, full-bodied, but perfectly sound and clear, with plenty of tannin. Perfectly dry and with no trace of sugar, this Ziufandel claret, made the 5th day of July, is a grand wive, especially for blending with lighter wines, though any one desiring a full-bodied claret may prefer it unmixed. A region that will produce over-ripe grapes in July needs no eulogy from me. I only wish to call the attention of the vine and fruit grower to the same. With this region in fruit and vines, California can extend her shipping season of fresh fruits for Eastern markets fully six weeks.

## CLARIFYING.

Clarification writes Engene Deltrikh, in Neuas Pharm, Manuale, is a process by which any solid particles suspended in a liquid are either caused to coalesce together, or to the medium used for clarifying, that they may be removed by filtration (which would previously have been impossible), so as to reuder the liquid

Oue of the best agents for this purpose is albumen. When clarifying vegetable extracts, the albumen which is naturally present in most plants accomplishes the purpose easily, provided the vegetable matter is extracted in the cold, so as to get as much albumen as possible iu solu-

addition of cellulose, in form of a fine magua of filtering paper. This has the Iurther advantage that the subsequent fil- patients, as he knows its value from pertration is much facilitated.

Suspended particles of gum or pectin may be removed by cautious precipitation with tannin, of which only an exceedingly small amount is usually necessary. It combines with the gelatiuous substances better with the aid of heat than in the cold. There must be no excess of tanniu used.

Another method of clarifying liquids, turbid from particles of gum, albumen, pectiu, etc., is to add to them a definite quantity of alcohol. This causes the former substances to separate in more or less large flakes. The quantity of alcohol required varies greatly according to the nature of the liquid. It should be determined in each case by an experiment on a small scale.

Resinous or waxy substances, such as are occasionally met with in honey, etc., may be removed by the addition of bole, pulped filtering paper, and heating to boiling.

In each case, the clarifying process may be hastened by making the separating particles specifically heavier, that is, by incorporating some heavier substance, such as talenm, etc., which may cause the flocculi to sink more rapidly, and to form a compact sediment.

Clarifying Powder for Alcoholic Liquids. Egg-albumen, dry......40 parts Sugar of Milk ..... 40 Starch......20

Reduce them to very fine powder, and mix thoroughly.

For clarifying liquors, wines, essences, etc., take for every quart of liquid seventyfive grains of the above mixture, shake repeatedly in the course of a few days, the mixture being kept in a warm room. Then

Powdered talcum renders the same service, and has the additional advantage of being entirely insoluble. However, the above mixture acts more energetically.

## A REMEDY FOR IVY POISONING

Poison ivy, while it is very poisonous to some, is entirely harmless to others. Actual contact with the plant is not in all cases necessary to poison a man. Persons are known to have been poisoned by simply passing by places where the vine grows sbandantly. Those who are not familiar with these plants will on general principles do well to avoid any vine or bush growing by rocks, fences and woodsides with glossy leaves arranged in trees, and in the fall any particularly brilliant tree in swampy places, with leaves resembling, but slightly broader than the common samsc.

Fortunately ivy poisoning is not a dangerous affection, although persons severely poisoned present a very distressing appearance. No scars or permanent injury to the skin or general system are apprehended in ordinary cases, and no danger of catching it by contact with the eruption upon another person need be feared.

The brnised leaves of the common plaintain are an excellent antidote and always convenient. Rub them over the eruptions and bind them on if possible. Fine table salt often effects a cure. Applications of soft soap sometimes afford relief. Sweet oil is one of the surest and most agree-Egg-albumen may also be used. The abla remedies. Bathe the irritated parts ity of the secretive organs.

effect of albumen may be increased by the frequently with the oil. A lending physician speaks in high terms of sulphate of seda as a remedy; prescribes it for his sonal experience. As to his own case, he was completely covered with the poisonous eruptions, and tried all the old and new cures without any good resulting from them, until one day a drug clerk gave him 10 cents worth of sulphate of soda, dissolved in one pint of water, with which he bathed the parts freely. It acted like a magic; it allayed the itching and was very soothing. The cure was complete in a week. Sulphate of seda can be obtained at any drug store, but in ordering, it will be well to state that it is sulphate of sods, and not sulphate that is wanted, otherwise there is a possibility of getting the latter, which will not answer the purpose.

#### GRAPES AS A MEDICINE.

Recent investigation and experiments, remarks the Vineyardist, have proven the grape to combine more health-giving and enring properties than any other fruit known and so marked have been the results in the cure of both special and chronic diseases that in Germany several establishments have been erected under the title of "Grape Cures," It would, indeed, be a boon to our people, who are classed as a nation of dyspeptics, if several of these institutions were built up here; and where on this Continent could such an institution be more pleasautly or judiciously located than on the shores of our heautiful takes, Keuka or Seucca?

[Why, South California, of course. - ED.] Combining, as they do, purity of air and water, charming scenery and surroundings, and above and beyond all, the ripeniug to perfection of nearly every grape grown Quoting from the late Dr. Hall, (author of several prominent medical works and the editor of Hall's Journal of Health), on the healthfulness of the grape, he says: "H the seeds of grapes are · swallowed, costiveness is obviated; if the pulp is eaten, it is pure nntriment and is soothiug in irritated bowels; if the pulp and seeds are removed and the remainder chewed, there is a liquid obtained from the skin which is a valuable astringent, and if eaten as a whole by the dyspeptic one half an hour before each meal, in quantity of one-half to two pounds, it is almost a certain cure for the most aggravated form of this disease.

It is a fact, beyond question, that grapes are esten by the old and young, from early morning until late at night at all times, in any quantity and under all circumstances. and yet who has ever known a well-authenticated case of sickness arising therefrom? Testimonials from reputable persons living around us can be readily obtained of the permanent cures of many diseases, such as dyspepsia, chronic diarrhœs, debility, nervous prostration, loss of appetite, from their

All know, or should know, that the liver is the great scaveuger of the human system, and when that is inactive or torpid, disease in some sort manifests itself. Fruit, and particularly the grape, aids in promoting the liver's activity, their acids purifying the blood and separating the bilo frem it, which is then passed from the system, thereby securing a perfect action. In view of these facts, it becomes almost a duty incumbent upon all, particularly parents, to en-corrage the consumption of the grape among themselves and children, and all who are troubled with dyspepsia or inactiv-

#### KICKVILLE HEARD PROM.

A correspondent signing himself "West New York," in Bonfort's Wine Circular, waxes indiguant over an article which appeared recently in the Alba, in which the writer advocated a plan whereby the pure wines of California can be largely advertised by means of the State Wine Exchange, and the standard of such made familiar to the general public. "This," he goes on to say, "is a commendable object and should receive the hearty support of every honest wine grower and dealer everywhere, but atmost in the same breath to advise the use of methods to adapt them to the trained taste of Englishmen is at best a little peealiar, considering the wholesale condemnation forther on in the article implicating nearly every first-class hotel and wine dealer in the East. The writer also proposes a acheme of sending men East to expostulate with these hotel proprietors who sell cheap, poor and adulterated California wines and to denounce the obdurate dealer who supplies them. This might be a pleasant amusement, but, to make it effective, much of this surplus wied could be utilized as a school of practice at home. The pot's calling the kettle black is no argument, and to charge that the great bulk of eastern wines are fraudulent, even naming the localities where produced, Missouri, Lake Erie and central New York, is an insult to intelligence, and exposes the ignorance of the writer. There are dishonest men everywhere, even in California, and when her people have eradicated from within her borders all dishonest practices, then with good grace she can turn her attention to other States and localities. The admission of her people, the long list of importations o' the staff ased in fabricating wines, such as prone juice, anoline dyes, etc., entered at the Custom House at San Francisco, the enactments of her Legislature, all testify to the fact that methods other than honest have been practiced there. From nowhere has Congress been so earnestly importuned for free spirits as from the people of Califormia; free spirits to fortify their wines. The matter was pressed during an entire a ssion of Congress by a prominent California lubbyist, liberally furnished with all the requisites in that line. This same gentleman induced many of the castern wine producers to join with him in nrging Congress to pass what was called a Pure Wine Bill, to eradicate the evil complained of, but these men soon found, after spending considerable time and money, that the real milk in the cocoangt was the Sweet Wine Bill-free spirits to furtify them. However, La this discussion go on; it will do the honest producer-and there are many, both in the East and California-no harm. People are not fools; they soon learn to select the good from the bad. I assure the gentlemen west of the Rockies that when they carnestly wish any legislation at the hands of Congress to protect honesty in the wine business, not alone in California, but everywhere, they will have the hearty support of many castern wine men, but, the sooner they learn that they are not the big 1, and all others the little you, the easier things can be righted.

· IT COVERED THE EARTH .- The largest abstract of title in the world has been completed in Los Angeles. It contains 18,000 pages, and was executed for the Rancho na. Lordsberg and other towns.

#### THE RAISIN CENTER.

Fresus county is pre-eminently the raisin center of the United States. Mende & Co's. fourteenth annual review credits Fresno county with having produced in 1888, 415, 000 twenty-pound boxes. The books of the railroad company show that the shipments have amounted to 534,313 boxes. At a low estimate the home consumption has been sufficient to bring the netual prod net of the county up to a round 510,000 boxes. Meade estimates the product of the State for 1555 at 915,000. If we correct his estimate of Fresno's product the output of the State will be brought up to 1,040,000 boxes, which we think is very nearly correct.

Thus it will be seen that this county alone produced 510,600 boxes, while the product of the entire remaining portion of the State was about 500,000. It is a noteworthy fact that the shipments increased from 313,215, boxes in 1857 to 534,-313 in 1888.10 connection with this we may state that the Rebublican's estimate of the shipments for 1888 was 450,000 hoxes-Our figures were looked apon as unreasonable by many of our exchanges, but the facts show that they were very reasonable, about 90,000 boxes less than the actual yield. Our estimate was much more nearly correct, in fact, than those of Meade & Co., who are practical vineyardists and raisin packers. If the actual figures have been determined upon in other sections of the State we would be pleased to obtain them. The raisin business has proved so profitable that the acrenge is rapidly increasing, and no doubt Fresno will continue to be in the future as it has been in the past, the great raisin center of California.-Fresno Kebub-

## THE VINE DISEASE.

A queer theory is advanced for the prevalence of disease among the vines in Southern California by a correspondent of the Anaheim Gazette. It says: "I saw during my recent visit to Anaheim that the vines have almost vanished, having died from some cause not yet discovered. I have an opinion that the large number of pepper trees now growing all over the country have something to do with it. I may be wrong, yet it might do good to inquire into the matter. I herewith give you my reasons for the same: Over twelve years ago I planted some vines on the south side of my home on Palm street. Th y grew splendidly, and the second and third years we had some very fine grapes. I had also planted some pepper trees, which grew beautifully, as you now see them. After the third year the vines gradually declined. They were well attended to, an expert did the annual trimming, but they bore few grapes, and what there was of them were ont fit to eat. About seven years ago, when I last saw the vines, they amounted to nothing, and at that time I considered the pepper trees as the probable cause of the destruction. I saw when I visited Anaheim a week ago the immense number of pepper trees grown up, some to a very large siz , and the idea occurred to me that in the pepper tree vine-growers might have to look for a solution of the problem. There were very few pepper trees twelve years ago. The vineyards were mostly surrounded by willow fences or nothing at all, while new roa find anywhere a large number of peppers, long avenues of this beautiful tree, San Jose and additions, including Pom- but the vineyards, the pride of Anaheimwhere are they?"

#### THE NEW VEGETABLE.

The Gordener's Chronicle notices the exhibits made at some of the horticultural shows in October, of a new vegetable which has been in culivation for the two years past in France and Eugland:

It really consists of the tuberous rootstock of a species of Stachys known provisionally as S. tuberifera, and closely allied to the Woundwort of our hedges. Its culture is of the easi st-in fact, nothing more is requisite than to place the tubers in the ground, as we can testify. We placed some of ours in the open border last autumo, whilst other tubers were grown through the winter in a pot in a cold frame, and planted out in spring. Neither the one nor the other received the slightest attention on our part, but in spite of that, our carelessness was rewarded as it ought not to have been, by an ahundant erop. In flavor, when boiled, it is something butween a Jerusalem artichoke and a boiled chestnut. We have no doubt, that with proper cultivation, we shall have a vegetable that will be of great service in seeuring variety at the dinner table, though we cannot pretend to look upon it as more than a delicacy of relatively little value as a food erop though the profusion with which its tubers are formed, and the ease with which they may be multiplied by using each joint as a "set," may possibly give it some value in this respect.

It requires only little experience of what a French cook can do to foresee the variety of ways in which such an artist would dish up these dainty little tubers. We may expeet, as asaal, some prejudice to arise at first sight, indeed, we have heard of some people objecting to them on the ground of their resemblance to caterpillars. The resemblance is not very close, but we all know how obstructive such prejudices are. We may add that the specimens we grew without manure or care of any kind, were not only abundant and delicate to the taste, but when dug out of the ground were of a silvery whiteness, recalling in a minor degree the pearly lustre of bream or white-

The skin is so thin that washing only is required before cooking, and no peeling is necessary.

## NATURAL DRYING.

The enormous fruit crops of California, observes the Sutter Farmer, have called into life a great canning industry, which will soon, if it does not already, excel that of any other State in the Union. Fruit is thus rendered imperishable, and can be transported to the furthermost limits of the earth. But while selling our fresh fruits in limited quantities to our own citics and to Eastern consumers, we had almost forgetten our drying facilities that could consume the entire product of the interior in the prehards where they are produced, and being thus rendered imperishable and reduced in bulk, can be drawn many miles to transportation lines, and also, like canned fruit, will go to the consumer in every country.

It is worth while, then, to look about us and make such discoveries as the merest novice may see for the looking. Our warm, clear, rainless and dewless summer elimate gives to our State fruit-drying facilities enjoyed by no other country earth. No artificial dryer is needed. No wood, coal, oil or any fuel is required what- clse."

ever. The fraits need only to be spread to the sun and allowed to remain autouched until dry and ready to be packed for shipment. We talk about the very great advantages of the wheat-growers of the State, but they are not to be compared to those njeyed by the fruit-grower who dries his

As we contemplate the business we can see platforms made of wood or cheap material stretched along the rows of trees to be dried, and in from three to five days taken up ready for the market and replaced with another complement. If the climate and consequent improved machinery of California can force the wheatgrowers to the wall, the natural California fruit-dryer can force all the competitors over the "wall," no matter how cheaply he gets his labor. Men talk about overproduction of frait, with the hundreds of canneries and "all creation" as a drierit is impossible. As to a market, our kinds, varieties, qualities and exclusiveness give us the whole world for a mar-

## THE BANE OF CALIFORNIA,

The bane of California has been speculation, and a desire and expectation in too many of its people to get rich saddenly. This spirit has led too the creation of anhealthy booms, and too a narrow spirit which set different parts of the State against each other, each jealous of the other's growth and prosperity, as though there was not "enough to go around." California has the richest soll and finest climate in the Union. Not the half is yet known of its resources. The State can support 6,000,000 of people in comfort and happiness. But they must be workers and not speculators; men who behave themsalves like the rest of mankind who have to earn their bread and butter by the sweat of their brow, " as our contemporary well says. The California farmer is probably the happiest of his calling. He is rightly called the "golden farmer." Nature deals with him more kindly than anywhere else in Christendom .- Ex.

## SMALL PREIT HOLDINGS.

In a recent address Professor Hilgard of the State University expressed the following estimate of California vine and fruit growers and their interest: "I don't think that any country on the continent will ever compete with California for grapegrowing and wine-making. In the raisin and wine industry I do not think you will have any competitors. In other fruits we have. There are certain other localities in the United States, where they can produce fruits as well as in California. New Jersey, for instance, can produce a large amount of peaches, but it is very small as compared with California, and would cover only a small portion of our foothills. And I emphatically assent to the proposition that a community of fruit grower may have large tracts cultivated and a sparse population, but it consists of rich men and poor laborers, whilst a fruit-growing section must be exceptionally intelligent and mecessarily-I think, intelligent and educated, I think this industry conduces eminently to education, and to small holdines, which necessarily bring about a degree of popular intelligence and education which it would be difficult to find anywhere

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#### HINTS FOR THE PLANTER,

The following hints from a correspondent of the Templeton Times will prove of value to the new beginners in the fruit and vine industries:-

As the aeason for planting trees and vinea is at hand, perhaps a few hints from one who has had six years' experience in this county may be of interest to some of your In the first place, secure from some reliable agent or nurseryman, good, healthy trees that have been grown without irrigation; oue-year-old or yearling trees are the best.

Healthy, thrifty stock, in putting out an orchard, is one of the cascutial requisites. Have your land well cleared of trees and brush, plow deep, not less than ten inches, and deeper, if possible; lay it off in rows twenty feet each way for all kinds of trees. except apples and olives; they should be at least twenty-five or thirty feet apart. Grape vines not less than eight feet; ten is better. On most of the lands in this county a hole large enough to admit the roots without eramping is sufficient; on extra heavy soils a large and deeper hole would be better. Carefully cut off all bruised roots with a sharp knife, with a slanting ent from the under side upward; set them about the same depth that they were in the narsery. Be particular about straightening out all the small fibrous roots and fillin with pulverized soil, pressing it down quite firmly, leaning the tree a little toward the prevailing winds, which are from the south and southwest. After they are set out, if they are yearling trees, cut them back to within sixteen or eighteen inches of tho ground; if they are two years old, thin out the top to correspond with the roots that have been destroyed in transplanting. All the buds from the ground up will start to grow on those that you have cut back. Leave from three to five of the top buds to form the top of the tree, and rab off all the others after they have started in the

Shade the bodies of the trees for the first two years as a protection against the borer. I do it by wrapping them with old cotton eloth that has done service as sheets, pillow-slips, dress skir/s, etc,; tear it in slips about two inches wide. Commencing at the lowest bod that you have left to form the top of the tree and wrap it spirally to the ground, dig away the earth a couple of inches below the surface, then replace the earth and it will hold the cloth in place, The second year, when the body of the tree begins to grow, it will burst the cloth. and after that there will be shade enough from the top to protect the trunk of the tree. Shading or wrapping the trees can be done any time in the spring before hot weather seta in. It is a good plan to mulch them during the spring with damp coarse or wet manure; the ground ander the mulching retains moisture much better and remains at a uniform temperature during the summer.

In actting out grape cuttings use a spade. digging a hole the size of the blade of the spade, both in breadth and dopth. It is not accessary to remove the dirt from the lower half of the hole; loosen it up with the spade and run the cuttings down into it, press the dirt down firmly and fill in, leaving only one bud above the ground. They can be set out quite rapidly in this way, and it is better than using a dibble or crowbar for that purpose. Ten or twelve inches is deep enough to plant them.

In putting out a vineyard in some acasons quite a large per cent, of the cuttings will fail to grow. To insure a good stand it is safer to put two cuttings in a hole about four or five inches apart, and if both should grow one can be taken up the next season and set out in some place where both the cuttings have failed to start. In this way you insure a uniform stand in your vineyard.

Heading trees low is an essential point in putting oot an orchard. They are less liable to be thrown out of balance by the winds, the tranks are not exposed to the suu, and when they come into bearing the fruit is more easily gathered. Thorough after-cultivation is of the greatest importance. When you have finished plowing and cultivating in the spring, run a clodmasher over the ground, leaving the surtace smooth and well pulverized. Allow no weeds to go to seed and success is sure to crown your efforts. Trees and vines can be act out in safety up to the first of March and I have had good success in planting them later.

We have a good fruit country here and there is no surer and quicker way of euhancing the value of our lands and developing our country than putting out orchards and vineyards.

The olive does well here, and he who plants an olive orchard now, will, in a few years, be repaid a thousand fold for his

## PHONOGRAPHIC JOURNALS.

Thomas A. Edison's phonograph is to be applied to furnishing a talking daily newspaper, according to the New York World. To obtain the news the subscriber will have to turn the crank and listen as the news is recled off. Some time ago Mr. Edison succeeded in turning out what he calls phonograms, which are of a peculiar waxy composition, and can be folded and put in an envelope, like a letter. When the message which has been traced upon them is to be made audible they are wrapped around the phonographic cylinder, and by a revolution of the motor, the secunda of the voice are produced. It is said that 20 .-000 or more of these correspondence phonegrams can be turned out in an hour, and that they can be adjusted to any phone. graph. The discovery is said to have suggested to the inventor the plan of utilizing it for a talking newspaper. The phonograms will contain each day the latest news in a condensed form, and will cover each subdivision such as the cable and telegraphic, political, dramatic, commercial, etc., each being marked so that the hearer may choose. If a new open has been produced the night before, for instance, he can listen to a criticism of it, and enjoy the novel sensation of hearing the choicest passages of the music precisely as they were rendered at the theater. Any matter of news which embodies the speaking of one or more | o ple can be reported so that the phonograph aubscriber can imagine himself present and listening to them. It is not expected that the talking newspaper will achieve all its possibilities at once, the design at first being to provide merely a synopsis of the daily news, which will be furnished to subscribers so that they may than it while at breakfast, It is stated that whereas formerly the phonograph was only within the reach of the wealth, it will soon be brought so low in price that people of moderate means can possess one. The phonograms, as now made, would cost 20 cents a cylinder but as they are perfected the price is expected to be much lower.

The much-despised skunk, says Vick, is turkeys in the United States are known as a good entomologist, and the farmer and 4, the bronz ; 2, the Narragausett; 3, white; gardener make a great mistake in perscent- 4, black; 5, buff; 6, slate. The largest of mal. The few eggs he purloins from the farmer's hen yard very poorly compensate Connecticut, attain 15 pounds in weight for the great number of noxous insects he destroys. In May he is sometimes seen, about suudown, on some elevated spot, watching for the May beetle as he wheels his droning flight, and he saves him, too, not in the sense spoken of in the immortal elegy, but between his teeth. He will set an hour at a time gathering in the destructive beetles. Its is a persistent hunter, time, and in his noctarnal rambles moves along with his nose close to the groun, ; his sense of smell is so acute not an insect, not a pap rin the State, larva, above ground or h.low, can escape him; his eyes now glow with unusual britliancy as he scans every leaf for the hidden prey. About tobacco plantations his ser vices in destroying the tolacco worms arconsidered valuable.

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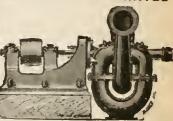
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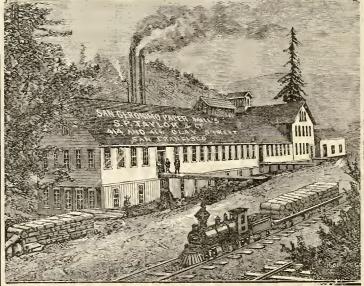
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1		( and Calistoga)	i
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VOL. XXI, NO. 10.

SAN FRANCISCO, FEBRUARY 1, 1889.

PRICE 15 CENTS

## ITALIAN VITICULTURE.

CULTIVATION AND PRODUCTION OF THE VINE, WITH CHARACTER ISTICS OF WINES.

An Interesting Account of the Wine Industry, fucuished by the Genecal Ratlan Wine Growers' Association.

[Continued from page 130.]

SOUTH ADBIATIC.

two groups of provinces which entirely differ from one another as regards their agriculture. The first group includes the provinces of Teramo, Chieti, and Aquinla, which constitute the Abrazzi; to the second group belong the provinces of Foggia, Bari, and Lecce, which form the Puglia; Campobasso named groups, and partakes of the nature of Puglia.

From a viticultural point of view the Abruzzi are very different from Puglia as to the quality produced, the systems pursued, and the cost of production.

The Abruzzi forma one of the most mountainous provinces of the kingdom. On the Adriatic coast are steep hills which continue inland until they join the Appenine chain, and it consequently possesses a large numvarious elevations.

The culture of vine commences on the narrow coast of the Adriatic sea, and is carried on in the hills up to 900 metres above the sen level.

Owing to its mountainous character the Abruzzi has a bumid climate and an unequal temperature, which explains why such a variety of wines are produced here.

In the Abruzzi the system of extensive vated with other herbaceous crops; as is generally the case in the central districts of Italy. However, there are some districts rapidly increasing. The small amount of not favorable to herbaccous crops, it posmanure which is produced here being prin- sesses many advantages for some shrubs cipally used for the lemon, orange, and and trees. For centuries the provinces of plough down into the soil green crops as the olive culture. Some ten years ago the manure for horticultural and other herba- almond was extensively grown there also;

eous crops; this being a practice which gives better results here than in the north rn countries on account of the mildness of the winter climate.

The wines produced in the Abruzzi include all the qualities which are produced in the more northern provinces. Very light white wines are produced, which are concentrated in kettles for making a special wine for local consumption only called Vino Cotto; among the other wines produced are that known as Cerasnoli (which is obtained by mixing black and white grapes), red table wines of various degrees of strength and color, and finally fine bottled wines The Southern Adriatic region comprises which quickly develop an excellent bouquet.

The valley of the river Pescara, and especially the districts of Popoli and Tor de-Passeri, produce a style which, as we shall show, is more properly obtained in the Southern districts; we shall also speak of the blending win a which in some parts of the Abruzzi possess a very intense color, is a province situate between the two above although they are less alcoholic than those

> The wine production of the Abruzzi, which was already considerable, rapidly developed and found ready market as soon as the district possessed the advantage of a railway line which united her with Rome and the North of Italy.

In this district new plantations are not so rapidly increasing as in Puglia, because the annual expenses of culture here are greater; the prices of the wines are comparber of valleys and table-lauds exposed at atively moderate, and the complete and regular ripening of the grapes render them very anitable for distant transportation.

In Puglia, which is entirely different from the Abrazzi, the greater part of the vineyerds are situated on an extensive plain, slightly undulating, and, as a rule, only a few metres above aca level.

The recent cultivations on the hills, called Murge, Minervino, Spinazzola, &c., although at a moderate elevation, do not onlture of the vine is very old; it is culti- ulter the general characteristic of the Puglia vine culture, which is essentially a cultiva- first, the most\_exclusive system of culture tion on the plain.

This district is one of the driest in Italy, which have an exclusive culture on trellis and in the summer senson the rainfall is work; and this system of culture is very very small indeed. If such a condition is oliva trees, has compelled the people to Lecca and Bari have formed the centre of

but what has caused in recent years a radical transformation in the agriculture of Peglia, is the extended cultivation of the vine, which only thirty years ago was almost restricted to a small area round Barletta, trict of Barletta, and a portion of the together with clive and almond trees. But adjoining district of Foggia. Large quantiwhen the Barletta wines began to be used in Naples and the North of Italy for strength- Gallipoli, and Taranto for shipment, and ening and improving the color, and giving many thousand casks are also carried body to light audinferior wines, the cultivation very rapidly increased, in the district of Barletta and afterwards throughout Poglia.

The reason why the vine culture here acquired a development not to be compared with that of any other Italian region, is due partially to climatic influences, which enables the vine to be cultivated ad alberello (without any supports); partially to the fertility of the soil, which gives an abandant production for many years without the aid of manures; and also the decrease in the profits derived from the cultivation of the olive and almond trees and cereals, as well as to the circumstances that the vine may be cultivated on soil which had previously been unproductive.

We do not mean to say that Puglia can continue for many years to cultivate the vine without giving it manure in any form; but for the time being, here, and we might add, in the three regions which follow, also a considerable and steady production is obtained, notwithstanding that the vines are planted very near each other and no manure is given. Morever, owing to the dry climate of this region, it has the advantage of being less liable to be damaged by the cryptogamic maladies which are peculiar to the vine. Hence, Puglia, much more than any northern region, possesses natural conditions which are favorable to the cheap production of wines. Another advantage favorable to the vine culture in Puglia is, that the vin yards are mostly of recent date, or quite new. From the very was adopted; very few varieties of grapes were introduced, and those only what the trade required, namely, those which proinferior and light qualities.

These favorable conditions have not only energetically awak and the activity of the country, but have also caused the immigration of workers and capitalists. Poreigners,

the fig too is cultivated to a certain extent; (French, German, and Swiss) have established large depots at Barletta, Bari, Brindisi, and Bisceglie, where they select and store the wines of Puglia for exportation.

> The largest production is that of the disties of wine are sent to Bari, Brindisi, overland

As regards the qualities of the wines, we must say that the district produces blending wines which possess that degree of alcohol, color, body, and flavor, which satisfy the requirements of the trade perfectly.

In the communes of Trani, Andria, and Canosa, which are close to Barletta, the wines cannot in strictness be classed as blending wines but they are generally treated as such. Contingent to these districts are localities where the wine, although used for bleuding purposes, contains a smaller proportion of alcohol, color, and body, and are known to the trade in Italy as Mezzo taglio in English, mixing wines); finally, there are other districts which produce Red Table wines, although always very strong on account of the alcohol and color which they contain.

In the district around Gioja del Colle and Altamura, a special red table wine, possessing a very delicate bouquet, is produced on a large scale from the Primitivo variety,

The white wines, in comparison with the red, are of very little importance; they are produced at Sansevero, Lucera, and Bitouto they are sold partly as produced and partly blended with strong red wines, as common table wines. The growers of Trani, Barletta etc., prepare as a speciality a sweet wine called Moscato, which however, is frequently too rich in sugar, and could not be produced in any considerable quantity.

At the extreme end of Terra d' Otranto a very exquisite wine is prepared from the Zagaresi grapes, but only in a small quantity.

The high prices which have been obtained since the viotage of 15%5, and the ready sales, have attracted the attention of the proprietors in this region to the necessity of duced a very strong, high colored, and (nil rapidly increasing the plantations. They bodied wine, valuable for blending with ought now to devote their attention to increase and improve their ellarage, to enable them not only to keep, but also to improve the products while they cannot be sold quickly, or reduce them to table wines when they cannot be sold for blending. when they The greatest difficulty which prevents us

having good and agreeable table wines C from this country is, that they are wanting in the acidity which constitutes the chief characteristic of the wine of the Northern districts. Science and experience have, however, suggested means whereby this difficulty may be overcome.

As to their chemical composition, the best wines of the Abruzzi contain 13 per cent. of alcohol, but the more commen contain between 10 and 11 per cent, and in a few exceptional cases 9 per cent. The acidity is sometimes 5 per mille in blending wines from the valley of the Pescara, but more commonly it varies between 6 and 8 per mille, but wines which contain 9 per mille are by no means rars. The dry residue of the wines from the Abruzzi, varies, when prepared in the ordinary way, from 16 to 18 per mille. We have not given any figures as to the concentrated wines, as these vary in accordance with the quantity of concentrated must which is added.

The best blending wines of Puglia very frequently contain 15 per cent, of alcohol, but more generally 13 or 14 per cent., wines di mezzo taglio (mixing wines) do not exceed 12 per cent., the table wines 11 per cent., and in a few rare exceptions, 101/2 per cent. The acidity soon after vintage is sumetimes from 7 to 8 per mille, but as a rule is scarcely 6 per mille, and freenently 5 or 4 per mille. With regard to body, good blending wine possesses fully 30 per mille, which is a normal figure for the largest part of them; mixing wines do not contain more than 25 per mille, and table wines not more than 20 or 21 per mille.

An analysis of the special wines of Primitivo gave on 15 samples an average of 12:90 per cent. of alcohol, and 7:57 per mille acidity. The common white wines have from 10 to 13 per cent. of alcohol. The composition of the Moscati and Zagaresi, depends upon the extent to which the grape juice has been concentrated. The most agreeable have from 13 to 15 per cent, of alcohol, and from 40 to 60 per mille of dry residue, including sngar. If the natural concentration of the grape juice has been such as to cause the wine to contain 90 per mille or more of dry residue. then the alcoholic strength does not exceed 10 or 11 per cent., and these wines have more the flavor of honey, and become too heavy.

We shall now give the figures showing the average production; but before doing so, we would observe that they are the average for the five years from 1879 to 1883, and as the greatest plantations in Puglia have been during the last ten years, the produce ought to have considerably increased. It will be sufficient to give one instance. Besides what was retained for home consumption the province of Bari, in the year 1871, exported 168,630 hectolitres of wine, while in the year 1886 it exported 978,440 hectolitres-upwards of five and a half times as much as in the earlier year.

Province.	Annual average production between 1879-83. Hectolitres.
Teramo	621 600
Aquila	
Bari Lecce	
Average production for Sout	

	Districts.	Average production of W per inhabitan
		Lit
Penne	******* ******	
Teramo		
Average for	the Province of	Teramo (

Chieti	148
Lanciano	144
Vasto	249
	****
Average for the Province of Chieti	181
Aquila	135
Averzano	129
Cittaducale	146
Solmona	237
Average for the Province of Aquila	159
1	
Campobasso	90
leernia	60
Larino	112
Average for the Province of Campobass	086
Bovino	50
Foggia	28
Sansevero	115
	_
Average for the Province of Foggia	181
Altamura	100
Barl	136
Barletta	
Darretta	245
Avarage for the Beauters of Boot	700
Average for the Province of Bari	199
Brindisi	71
Gallipoli	997
Lecce	190
Taranto	180
	34
Average for the Province of Lecce	145
Trouge for the Province of Lecce	145

It is rather difficult to give a list of growers and merchants in the Abruzzi who are able to provide a direct regular export of their products. In this district very few proprietors produce from 200 to 500 hectolitres. The greater part produce between 50 and 200 hectolitres. At Citta S. Augelo, Torre de' Passeri, etc., it is possible to find growers of more than 1,000 hectolitres, but it is also customary here to sell the grapes. The most important establishment which can in any way be recommended for quality and good orgagization is that of Senator Giuseppe Devincenzi, of Ginlianova; an establishment which, besides having a good sale for its wines in Rome, also, to a certain extent, exports them to Lucerne, Munich, etc., where they are much appreciated by consumers. Messrs. De Luca of Ortona a Mare export their wines to foreign conn-

In Puglia the growers are more important; some producing 10,000 hectolitres annually, and many over 1,000 hectolitres. The small proprietors are not so numerous as in other regions. With special regard to those who have well organized establishments, we may name:-

Giuseppe Pavoncelli, Cerignola, owner of three establishments.

Duke of Larochefancauld, Cerignole (general agent, Leon Maury.)

Enopolio Sociale, Lucera.

Trefiletti Bros., Foggia.

Marquis G. Curtopassi, at Bisceglie, Mnc-

cia, and Pozzo Sorgente.

Pietro Bucci ta Giulio, Minerviao, Murge. Sottani Stefano, Corato.

Società produttori Patroni Griffi, Capano & Debendictis, Corato.

Baron Giuseppe Patroni Griffi, Corato. Azzariti Saverio, Corato.

Comm. Nicola Gioja, Corato.

Giovanni Jatta, Ruvo.

Fione & Iacono Bros., Bitonto.

Vito de Bellis & Co., Gioja dal Colle. Patroni Griffi De Laurentus, Santeramo

ia Colle.

Giuaeppe De Bellis, Castellana. Giovanni Beltrani, Teramo.

Fedele Cavallo, Caroviguo.

Crosti & Borsa, Brindiai.

Many firms, some of them foreign, undertake the charge of buying, blending, and sending wines to foreign countries; the principal are:-

L. Combés, Leehman & Meister, Crobot & file, Emanuele De Feo, Picon, etc., at Barletta; Mastaller, Hausmann & Co., Videau & Brnn, Wehrlin, Scarpelli & Co., A. Berner, Seitz & Zublin, etc., at Bari; vine to be filled as the plant grows, remem-216 Pietro Antoniazzi, at Nardo.

#### VINEYARDS.

## The Importance of Cultivation and Care during Early Growth.;

[Vineyardist.]

The soil for a vineyard on which, together with the planting and care for the first and second years of growth, depend the early and abundant returns to remunerste the vineyardist is of the utmost importance, for, if proper attention to the early life and vigorous growth of the plant be given, the first substantial crop should not be later than the third or fourth year, depending upon the variety planted. But if farm crops are grown during the first and second years, especially during the latter, the first crop will be necessarily delayed until the fourth or fifth year, and this will not be satisfactory. In preparing the ground, it should be plowed deep and well, and if a sub-soil attachment is at hand General production for Southern Adriatic .... 167 that will follow the plow, loosening up the ground five or six inches deep in the bottom of the farrow, it will be of great advantage to the plant; and to facilitate planting, the lands should be plowed just to the width of the rows apart, to wit: eight feet, and plant the vines in the dead forrow, which will require very little digging for the hole in which to plant the vine, which should be set at least twelve inches deep below the level surface of the ground in ordinary soil; and if the soil is very light, deeper still. The cultivation during the season will fill up the dead furrow, and by plowing towards the vine in the fall the dead farrow is changed to the center or between the rows. Stubble or land cropped with corn or potatoes, if treated with subsoil as above, would be improved; and when fitted, can, as in the other case, be laid out by drawing a wire on two sides of the field at right angles (a linked barbed fence wire, with the barbs cut off, is the best) with a mark in the wire every eight feet; drive a little stake or peg down at each mark over the whole field, which will then row both ways, and then rnn a plow furrow close to the peg across the field, letting the peg stand, and by crossing the opposite way with the plow, leaving the peg standing, very little digging will be required, and the plant can be leaned up against the peg in planting and the rows will be exact in all directions.

## PLANTING.

Great care should be taken to have this work done well, as this is the important thing in order to secure a good thrifty vineyard from the start.

The long, woody roots, if one year old, should be cut back to six or eight juches. according to the size of the plant, before taken to the field to have them ready.

The roots should not be allowed to get dry; in planting, put the plants in a pail with sufficient water with a little fresh cow manure added to it to keep them wet, then the planter should set it properly by spreading the roots in the hole just prepared by some other person, or persons, designated for the purpose, filling in, with his hands, surface soil about the roots, to the depth of two or three inches, and then take the next, and so on, to be followed by another who will pack the earth down about the roots. exercising great care not to injure the plant in so doing, filling the holes with the plow, leaving the top buds ont of the ground and if the plant is too short to allow the hole to be filled, leave a depression about the bering that after heavy showers they should should be placed three and one-half fee i

be looked after at once, to see that none are covered with earth that has washed over them, ner any washed out, as is sometimes the caso.

Train to one cane, keeping off the laterals for about a feet or more above the surface of the ground, and, after that, let it grow as it will for the first year. Before the plant is set, scatter from a basket in the bottom of the hole a couple of handfuls of grape food which should be covered with two inches of surface before setting the plant, so the roots will not come in contact with it. Great care should be taken in the use of commercial fertilizers, many vineyards having been ruined by the too liberal use of them; after planting, a copious rainfall washing it down on to the roots and destroying them, but if below them and covered they will find it and take what they want, and no more. Thefollowing fall or early spring, bone meal, a good grape food, nuleached wood ashes, or muriate of potash, sown broadcast and worked into the soil is, without doubt, the very best fertilizer you can give a vine-After the vineyard is established, an application once in two or three years. will be sufficient. It is quite as important to keep the soil stirred after the vine is planted, as it is with the hill of cora, keeping the ground loose and moist, and allowing no weeds to choke the vine; if the soilis rich, potatoes or tomatoes can be grown. between the rows of vines the first year,. but after that, no crop should be allowed, as what can be grown from any other cropwill by no means compensate for the eacrifice of the vine. In case of a drouth the first year, cultivate your ground thoroughly. and often, and a couple of forkfuls of halfrotted barayerd manure placed about the vine will serve at the same time as a mulch: and fertilizer, and secure a good vigoronsgrowth, even should it be very dry, and this should not be neglected, as losses occasioned by drouth, or any other cause, make the vineyard irregular, and are disastrous. to the best success of the same for severalyears. It is better during the first summer's growth to drive a small stake down by the side of the plant and tie it up a conple of times to keep it up and away from! the harrow or cultivator, and in the fall. after the leaves have fallen, to prune back: to two or three buds. Train to single cane; twelve to sixteen inches above the ground and then let the laterals grow; end, in early fall, drop the vine from. the stake and plow shallow toward the vines throwing alittle earth over the vine, first putting aforkful of rotted manure around them, if

you have any.

This method will furnish a good, safe protection for the winter, during which time the material should be obtained for the trellis to be put up the following: spring. The plan which is rapidly growing in favor with practical vineyardists and which is adopted in many sections, where strong growing varieties are cultivated largely for market, giving better autisfaction' than any other method previously tried, and which we recommend, is as follows: Posts made of either chestnnt, oak or cedar, white or red, are used and cut long: enough to be six feet above ground, after being set two or two and one-half feet in the ground, according to soil and location. The end posts need to be braced so as nut to settle over and loosen the wires which are stretched from post to post. The posts should be set thirty-two feet apart as a general rule. The first, or bottom wire,

from the ground, and the second, or top wire, two and one-half feet above the first wire-always running the rows north and south if practicable. The two wires will be found perhaps sufficient, although some prefer the third, dividing the space differ ently. The first two feet from the ground, and the other two, one and three-fourths feet apart. Hoth of these plans are for the Kuiffin system of training the vine. The wires must be drawn as tightly as they will bear, so as not to stretch and sag down under the weight of fruit. No. 12 annealed iron or steel wire is used, galvanized or not, and can be bought at two and one half to three cents per pound at our hard ware stores. The wires to be fastened to the posts with a staple driven in firmly and the posts should be five to seven inchein diameter. It will be readily seen that by setting the above posts equally distant, beginning on the same line, the field wil be divided into sections, and the space between the end post in one section and the end post in the adjoining section will leave a space for a roadway, which can be of any desired width by proper planning in laying out the field; and when fields arfenced in there should be space enough for roadways around the outside for convenience in gathering the crop. Sharpening the pests and making a hole with a large post-bar when the ground is soft in the spring, or boring a hole with a post anger smaller than the post, and then driving the post down with a maul or sledge hammer is a very rapid and effectual way of patting up the trellis and makes the post set very firm. The young vine should be nacovered in the spring as soon as all danger from freezing is past-often times vines that have been covered with earth or manure during the winter are left covered so late in the spring as to destroy the bads -and, as soon as the ground is in condition to work, fill in all vacancies with strong plants, so as to keep the vineyard as uniform as possible.

The main object in having the trellis up the second year is for the purpose of getting the vines well established with the necessary arms for producing a crop of fruit the third year, which can be easily accomplished with thorough cultivation again the second year, and with proper attention to the training of the vine, which is as follows: Confine the new growth to one cane (the stronger is always selected), which is carried perpendicularly to the top wire, where it is turned off to the right, say, keeping off the laterals, and allowed to run along the wire for three feet or more when the end is pinched off, the effect of which is to cause the vine to throw out laterals again, one of which is saved-that nearest the upper wire-and train on that to the left and so in a like manner two are saved for the lower wire, 'orming two arms for that, one to the right, and the other to the left, and all other laterals to be taken off. These will be required to be tied to the wires to keep them from being broken off, and with care to keep the first cane upright, the vineyard will present a fine appearance with no unsightly cloows in the main cane, On account of the theory advanced by some, that the best clusters tend toward the end of the vine which will soon be found on the upper wire only, which is only in theory, and not proven by practice, they suggest, to which there is no objection that this can be obviated by letting two upright canes grow instead of one; the one having right on the lower wire and one arm to the left on the upper, both of which are on the renewal plan-

Another plan for a trellis (where, by reason of the extreme cold winters, the vines require to be laid down and covered), is as follows: Post and wire as above with three horizontal wires and posts five cet above ground. The first wire two feet from the ground and the other two, one and one-half feet apart each, and the vine trained all one way. The advantages are: First; the fastenings can be cut in the fall and drop the vine down on the ground to cover with the plow or other covering, also getting the benefit of the snowfall. Second; by driving the horse, in cultivatien, next to the row the way the vine runs, and back in the middle of the row, there is no danger of breaking off the new growth; this method might be found a protection for the young shoots in the exposed places, subject to winds, running the vine with he wind when practicable. The main vine and fruiting wood is tied to the first and s cond wire and pruned, tying the new growth to the upper wirs and dways rubbing off the buds above he top wire; thus the vines will run bout the same. Marks across vines indicate where to prune, which should be lone in the fall, in order to harden ap the wood. In ease it is not convenient to put up the trellis the second year, and the purpose is to adopt the Kniffin system, this can be done by training the second year's growth to the three cames, pruning these in the fall to about three feet and fruiting the two outside canes, using the middle cane to grow your arms for the next year, and cutting away the two outside canes after fruiting. During the second year, while shaping the vine for future cropping, the ground should be thoroughly cultivated, by first plowing away from the vines in the spring-not too deep, say four or five inches-and with the frequent use of the cultivator and harrow the vineyard can be kept free of weeds, and the soil loose and moist, save that the use of the hos will be required under the trellis occupied by the vines beyond the reach of the cultivator or harrow, which will be very slight if the work of planting and setting the trellis is properly done-being so straight that the space, if any, left for the hee will be very narrow--stopping all enltivation, however, by the first to the middle of August to give the wood time to ripen before heavy frost. At the closs of the sea" son, after the leaves have fallen, the vines should be pruned, with due regard to the ability of the vine.

A safe rule to adopt, will be to prune these four arms back to six bads, at the end of the second season, ticing the main eane to both wires, and the arms at the outer ends, which is one of the advantages of this system, being a great economy of time and labor over the old system, which requires the ticing of almost numberless new growths-and some of these for several times-requiring patience and experience to do well. Equally satisfactory results can be obtained without it, by the eystem recommended, as stated by practical graps growers of large experience along the highlands on the Hudson, who have adopted this system in preference to all others. The management and training of the vine are somewhat different the third year from the second. The new growth or fruit bearing canes, are made to hang down on both sides of the trellis, from both one arm to the right on the upper, while down on both sides of the trellis, from both the accord cane will have one arm to the wires, like twigs of willow, which can be

along rapidly, pulling them loose where the tendrils bind them, and so let them sway in the wind, giving them air and light, and the fruit hanging underneath is free for picking, not being bound in by the vines, an l if these canes grow enfliciently long to reach the ground and interfere with cultivation, the ends are removed readily by cutting or twisting off. The only sammer pruning needed, is to break out the super fluous shoots at the base of the fruit-bearing vines, giving the strength of these for the perfecting of fruit and fruit-bearing arms for the next year's crop, which will be laterals that grow out at the point where the arm is connected with the main npright cane, which, let grow unchecked, hanging down the same as the fruit-bearing cane, they will make four laterals to be brought up to the wire to form new arms to take the place of the old arms, that will be cut away at the next pruning. This will be the same each year afterward, growing a new fruit arm for the next year's erop, to take the place of the old arm to be ent away each year, and the new arm to be cut back to eight or nine bads the third year, which will provide for all the fruit the vine can sustain.

DON'T DE TOO AVARICIOUS,

Most varieties of grapes are prolific hearers, and quite liable to suffer injury from overhearing. Care is necessary in the tr atment of young vines in this regard. It may do no harm to leave one or even two clusters when the vine is in its second year; but at no age of the vine, should more fruit be left to mature than it is able to carry through safely. If allowed to overbear, the fruit will be inferior, and the constitution of the vine so impaired as, often times, to require years to restore it to its former vigor and productiveness. One of the evidences of over-bearing, even in a healthy vine, is a feeble growth of fruit wood while earrying its heavy burden for the next year's crop. Eight to ten pounds is quite sufficient for a strong vine the third year, and twelve to fifteen and eighteen pounds, according to the size and vigor of the vine, for the foorth year, With the Catawba and Concord if the large clusters only are left, they will ordi. narily weigh from one-half a pound to a pound and more each, and by this method is given the quantity the vine is carrying,

## OLIVE OIL.

The olive is extensively cultivated in the south of Europe, solely for the sake of the oil, which is obtained from its fruit. This is a small green oval berry, containing a a hard stone, in which are two seeds. The fruit must be eathered before it is quite ripe the olives are spread on the floor of a room, and left several days to dry and to ferment slightly; they are then crushed in a mill, and then put into bags made of rushes, or of coarse canvass, which, being subjected to pressure in a serew press, the oil flows out and is received into proper vessels, which are half filled with water, on top of which the oil floats and is easily skimmed off. Where the process is carefully performed, the stone of the berry is not broken when the fruit is first put into the mill, the mill stones being set far enough apart to avoid doing so, and the oil first drawn off is of superior quality, After all this is expressed, the mass, stones and all, is either returned to the mill, and the stones are broken, or the same effect is paper in the State.

done by one man taking one side, passing produced by mixing up the mass with boiling water and increasing the power of the press; by repeating this operation, not only a second but even a third quality of oil is obtained. The best oil is made in the neighborhood of Lucca, Italy; that consumed in Eagland is produced principally in Tuscany or Naples, though a great deal is also brought from Spain, and some from the Ionian Islands. In this country, as an article of food, it has been heretofore treated as a laxury, and principally used by the middle and upper classes. however, all classes are being educated to the fact that it is a very desirable article, both as a food and a medicine.

The following facts in regard to it are so well narrated by the Frenchman, Bertile, that we quote them: "Rich in azote, and with considerable nutritive qualities, olive oil possesses in the first place, the power of assimilating with the human body. It is instrumental in assisting in many medical cures where the method is entaneous. It being more liquid than an animal fat; always used for that purpose, it is easier to absorb. The injured parts, protected from the air by the cily substances or salves, hest more quickly. These unctions give, besides, more suppleness and elasticity to the muscles. As it is not penetrated by the poisons in the atmosphere it is used with success in counteracting the deleterious miasma around swampy districts. Taken daily by the spoonful, it is an excellent laxative to the system, and not tiresome to the stomach."

In the countries which produce the olive, the oil constitutes a large proportion, in some way or other, of the food of the people, and is an absolute necessity.

The refuse of olives, after the oil is obtained from it, is given to hogs to fatten them, is burned as fuel, or used as a manure. The unripe fruit is also pickled in salt water, flavored with some spice, and is eaten in many countries as a relish. It is also largely used on the European Continent to improve the flavor of certain wines.

"The touching story of the flight of tho dove from Noah's Ark, related in Genesis, proves the existence of the olive tree in the earliest period of the world's history. It was a celebrated tree among the ancients. It held the first rank in their mythology, Minerva taught the Athenians how to prepare the fruit, and they had a most religious respect for it. The Romans used the wood not only as fuel, hat on the altars of their gods; it was the emblem of peace."

A PROSPEROUS STATE - The Illinois Bureau of Labor reports that one-fifth of the State is blanketed with mortgages, bearing interest at an average of about 7 per cent,, which have been placed not for purchase money but for loans, while nearly one-fourth of the total acreage is mortgaged for deferred payments. The mortgage indebtedness on land alone outside of Cook county (Chicago), and not including railroad indebtedness, amounts to \$121,-000,000, an increase of 13 per cent, over the aggregate mortgage debt of 1880. This compares with an increase of 6 per cent, in the decade following 1870. The total debt including Cook county, equals \$142, t00,000. The Chicago News and Tribune both prediet that the next census will show a great decrease in the farming population of the

THE MERCHANT is the only viticultural

#### POISONS IN FOODS.

At a recent meeting of the Newark (N J.) Medical Association, Dr. August Dreseber, chemist to the New Jersey Board of Health, read a very interesting and instructive paper on the detection of mineral poisons in articles of diet and common use. which is condensed in the Analyst as follows:

Chemists have found lead in canned foods over and over again, the lead being generally supposed to come from the accidental dropping of some solder into the contents of the cans while these were being closed, or the food, on being extracted from the cans, coming into contact with the solder. In samples of canned tomatoes and peaches, I have myself repeatedly discovered lead, and the scrapings of the inner tin-coating of their containers have invariably given evidence of the presence of that metal. Tin and lead may be al loyed in almost any proportion. The melting points of these alloys never agree, as might be supposed, with the mean of melting point or hardness of both metals, but quite the contrary; they diverge rather widely from the mathematically calculated figures for the same. Of this fact, manufacturers of tinware are well cognizent. Tin and lead alloys are "more convenient and cheaper" than " plain tin." Doubtless there are manufacturers who do use pure tin, just as they claim, but they are certainly in the minority; thus, a number of our soda water apparatus makers now furnish tin pipe connections, etc., of pure tin. Far be it from me to say one word derogatory to the honest standing and dealing of men so inclined. Canned foods are now more largely bought and consumed than ever, for obvious reasons. In our day convenience, chcapness and dispatch are the desiderata. Why cook fresh fruit, corned beef, etc., while you can buy them "all ready made?" It is only necessary to warm them, and you will have a "hot dinner" in less than no time, and a cheap one at that time. The oft pointed out danger of lead poisoning is poohpoohed. Who ever died of eating canned foods? Directly, no one, it is true; and right here lies the danger. Had sudden deaths occurred from such a source, the public would doubtless have been aroused, and the resulting panic would have soon brought the delinquent to the corner. Lead. except in very excessively large doses, never kills at once. In point of fact, it is the Judas of metallic poisons. "Under the mask of a sweet taste," as the famous Professor Stoeckhardt very fittingly puts it, "it slowly, insidiously, yet surely, does its deadly work!" Bottled drinks (soda water, ginger ale, sarsaparilla and other "soft drinks," as well as wines, etc.) are exactly in the same predicament with "canned foods." It has been and is now a practice to clean old bottles by means of shot. Many authorities have, in the past and present, indicated the dangers of such practice, and, by conscientious pharmacists at least, it is safe to say it has been generally abandoned. Not so, however, with bottlers of wine, soda water or other drinks with whom this reprehensible custom seems still to prevail. Shot contains, I would add, a not at all trifling quantity of arsenic, which is another very undesirable ingredient. The use of abot for cleansing bottles ought to be condemned out-

in bottles with patent metal and Indiarubber stoppers. The analysis comprised may easily wear off, more especially by exmy work for three manufacturers. Some of these beverages were found to be defiled with lead and copper, one with lead and per, which will then be a source of conarsenic, and the rest, with one exception, were proved to be contaminated with lead. All centained tin, but this metal is not considered to be poisonous. The stopples hemselves were examined. They are generally composed of a loop of coated brass and a tin (and lead) buttou with an Indiarubber belt. Analyses of them conclusively showed the presence of lead, copper, zinc and tin. These "soft drinks" are usually kept in boxes in "upside-down" position, thus favoring access of the beverage to the tin stopple (containing lead), and though to a lesser degree, to the loop (composed of copper and zinc). The tin button with its India-rubber belt is thus in constant contact with the fluid, while this may suffer contamination by copper or zinc during the filling or emptying of the bottle, in cases where the coating (which is itself not unimpeachable) may have worn off more or

It is seldom, in our time, that we hear of metallic contamination of bottled wines or liquors. Suspicion rarely points that way, and examinations are consequently not called for. And yet, this ubiquitous foe sends his unerring arrow from even this quarter. In the year 1875 I was called upon to assist in an examination of a red wine, which was suspected of having been colored with aniline red. An afternoon birthday party of five persons had been attacked with vomi.ing and other alarming symptoms soon after having drank of this wine. Two of the number had been most severely visited by the distressing symptoms, and they were conspicuous as having heen the "champions in the race," as far as relates to quantity imbibed. The host, a physician and pharmacist, puzzled, as might be expected, sent the rest of this wine to a chemist near by, with special directions to look for arsenic (coming from the suspected aniline). The chemist, a busy man, applied Marsh's test, and failed to find arsenic. He then referred the matter to me for further investigation. I also failed to find arsenic, but I found copper and zinc in appreciable quantity. drink bottles with patent metal stopples, I have been informed, are now no longer cleansed by means of shot, better and more modern contrivances for the purpose being at hand. It is a well-known fact, that water, which has remained undrawn some time io our leaden aqueduct pipes may become polluted with lead, while oft-drawn water is not apt to be thus affected, it not finding the time to take up any of the mctal. Similarly, shot standing under water, or being shaken up with it in bottles, may cause defilement; and this I have recently corroborated by direct experiment. As to the possibility of contamination of soft drinks in our usual metal stoppled bottles by means of the stopple itself there can be no further doubt. Dr. Wm. K. Newton, New Jersey State Dairy Commissioner of Patterson, has obtained-independently of my work (of which he knew nothing at the time) in this connection-results corroborative of my own. Later on, Dr. Harold, speaks of " lead in our soft drinks and in the tin metal stopples," in a paper contributed to our local board of health.

Boilers, measures or other utensils of During the summer I was entrusted with tinned copper, serving as receptacle or conthe task of testing "soft drinks" put up tainers of foods or drinks, need faithful fants' nursing bottle fittings, nipples, etc., ranch."

watching. If the tinning he of pure tin, it posure to acid or alkaline fluids, laying bars more or less of the underlying coptamination. If the tin carry lead, our bill of fare will not fail to offer also this questionable loxury. The same applies to brass and lead forks, knives and spoons plated with tin, nickel or silver. Tinned iron pots, measures, etc., are apt to carry lead; but I have, so far, found it in traces only, often very minnte even, probably because of the small amount of lead present in the very thin tin coating of these cheap contrivances. The same might, seemingly, apply to tomato and other food cans of tinned iron, but we must here remember that in these cases there is more or less prolonged contact of food with metal, this enhancing the metallic invention, opening these cans we often find them to be badly corroded on their inside surface, which circumstance in itself is loudly eloquent. Conversely, the tinned iron cooking dish, the measure, etc., are much less effected, they being used for the occasion, cleansed, rinsed and put by for future use. Tomato cans, etc., are used for their intended purpose but once; the cooking pots, measures, etc., a thousand times.

If clay, as found in the bosom of our mother earth, be not above our suspicion, we might at least expect to find it purified and suited to our uses, in the form of our familiar table pottery ware, comprising our coffee cups, dinner plates, milk pots, etc., these necessities of our daily life all appearing in our market of a milk-white color, suggestive in itself of purity. Even. here disappointment awaits us, however. Clay is porus; to make it serviceable as pottery ware, it is glazed. In the process of glazing or enameling, the chief agent employed is lead oxide. If this were chemically completely used up so as to form lead silicate, which is generally insoluble, not affected by acids, etc., we would have little to fear from this source. If, however, the lead oxide should have been used in excessive amount, or, what is equally noteworthy, the temperature in the glazing process should not have been driven high enough, so as to result in using up all of the lead oxide, changing it to the form of insoluble lead silicate, we would have to face the danger of lead pollution. Our cheap glazing and enameled clay ware is generally ansafe for this very reason. Extensive experiments made within the last few years by unquestionable authorities in Germany, lead to the conclusion that the common clay ware manufactured in that country, in very many cases yields lead by trestment with vinegar, hot or cold, more or less, according to the extraction method employed. The clay goods of our American market, according to my own observations, are exactly in the same predicament. While conducting the experiments on glazed were, I came across many samples of our now well known blue glazed metal pots, etc., and I am ready to state that I have found them safe in every single case, they failing to impart lead to fluids acid or alkaline, even after prolonged boiling with European governments allow defithem. nite quantities of lead in glazed ware. It is even claimed that a certain amount of lead is indispensable in the glazing or enameling process; but the lead should never be present in soluble form.

The India-rubber tubing, stopples, in-

of our market, I have found to contain large quantities of zinc, which is a metallic poison. The use of zinc oxide, etc., in these goods is prohibited by law in Europe, just as is the use of lead exide. That nursing bottle tubing, nipples, teething rings, etc., may stand in some relation to certain infantile diseases seems plausible. India-rubber tubes are often used for siphoning wines, eiders and other beverages which might thus become polluted with zinc. It is noteworthy that in my exsminations of India-rubber goods I have never yet discovered lead. Zinc oxide, per se, is not, perhaps, a poison. But, let it meet an acid, a poisonous zinc salt will result.

Poisonous metals or their compounds in these preparations for external use are considered to be dangerous to health because of their liability to be absorbed by the skin, or even carried to the mouth inadvertently by the hands, with which they msy have been applied. Many hair dyes contain lead in large quantity, as has often been found by chemists. White lead and calomel are regular ingredients in many of our toilet and cosmetic preparations. I have recently found white precipitate (a very poisonous mercurial compound) to be the chief constituent of a "cream face wash." White precipitate and red precipitate, both of mercurial parentage, are often bought in drag stores for the preparation at home of ointments, etc., which are empirically employed. Not without darger, most assuredly. The general use and application of such powerful poisons had better be left to the discretion of the physician, he alone understanding the system and manner of their application. The conclusion of my remarks is this carnest admonition to the public. Be careful how. what, out of what, with what you dine and drink; be careful what you apply to your face, hair, hands, or any part of your

## HISTORIC GROUND.

There is a bit of history connected with the Madrone Vineyards, which were sold by E. T. Sheppard to Senator Hearst Wednesday, which will be of interest to those not familiar with the incidents of importance in the early career of Sonoma county. The following extract is taken from an article published in the Chronicle conceroing the sale: "There are 400 acres in the ranch, 200 acres of which are in a high state of cultivation, bearing fruits and vines. There is a magnificent park of I00 acres in which flourish madrones, from which the rancho takes its name, and other trees. The property lies at the base of Mount Ulops, just where its steep sides melt into the plain, and is about midway between Glen Ellen and the old town of Sonoma. The tract also borders on the Sonoma creek for about a mile. On the property is a large rambling country residence which has quite a history. General William T. Sherman built a portion of the residence and lived there quite a time; it was the residence of General Charles Stone, the officer who was courtmartialed by Secretary Stanton for refusing to charge the enemy at Ball's Bluff, where the gallant Baker lost his life. Stone afterward became famous as a General in the armies of the Khedive of Egypt. Just below the Madrone Vineyards, which is also known as the Stone ranch, is the Hooker ranch, where "Fighting Jos" Hooker lived for a time. Mr. Sheppard also owns a portion of that

#### HINTS TOR SMORERS.

Tobacco contains an nerid, dark-brown oil, an alkaloid, nicotine and another substance called nicotianine, in which exists its odorous and volatile principles. When tobacco is burned, a new set of substances is produced, some of which are less harmful than the nicotine, are more agreeable in effect, and much of the scrid oil - a substance quite as irritating and poisonous as nicotine is-is carried off. These fire-produced substances are called from their origin, the "pyridine series." By great and more aromatic and less harmful members of the series are produced, but the more poisonous compounds are generated by the siow combustion of damp tobacco. oil which is liberated by combustion is bad both in flavor and effect, and it is better, even for the immediate pleasure of the smoker, that it should be excluded altogether from his mouth and air passages.

Smoking in a stub of a pipe is particularly injurious, for the reason that in it the oil is stored in a condensed form and the smoke is therefore highly charged with the oil. Sucking or chewing the stub of a cigar that one is smoking is a serious mistake, because the nicotine in the unburned tobacco dissolves freely in the saliva, and is absorbed, "Chewing" is on this account the most injurious form of the tobacco habit, and the use of a cigar holder is an improvement on the custom of holding the eigar between the teeth. Cigarettes are responsible for a great amount of mischief, uot because the smoke from the paper has any particular evil effect, but because smokers-and they are often boys or very young men-are apt to use them continuously or at frequent intervals, believing that their power for evil is insignificant. Thus the nerves are under the constant influence of the drug, and much injury to the system results. Moreover, the cigarette smoker uses a very considerable amount of tobacco during the course of a day. "Dipping" and "anuffing" are semi-barbarities which need not be discussed. Not much effect is oblained from the use of the drug in varieties of the habit.

Nicotine is one of the most powerful of the "nerve poisons" known. Its virulence is compared to that of prassic acid. If birds be made to inhale its vapor in amounts too small to be measured, they are almost instantly killed. It seems to de. stroy life, not by attacking a few, but of all the functions essential to it, beginning at the center, the heart. A significant indicator of this is that there is no substance known which can counteract its effects; the system cither succumbs or survives. Its depressing action on the heart is by far the most noticeable and noteworthy symptom of nicotine poisoning. The frequent existence of what is known as "smoker's heart" in men whose health is in no other respect disturbed is dus to this fact.

Those who can use tobacco without immediate injury will have all the pleasant effects reversed, and will suffer from the symptoms of poisoning if they exceed the limits of tolerance. These symptoms are: 1. The heart becomes more rapid when tobacco is used. 2. Palpitation, pain, or unusual sensations in the heart. 3. There is no appetite in the morning, the tougue is conted, delicate flavors are not appreciated, and acid dyspensia occurs after enting. 4. Soreness of the month and throat, or nasal catarrh, appears, and becomes very troublesome. 5. The cyesight becomes poor, but improves when the habit is aban- doses. It should be remarked in this con- | grapes to the acre, with a value of \$20 a on the Pacific Coast.

enc.d.

In an experimental observation of 38 boys of all classes of society, and of average health, who had been using tobacco for periods ranging from two months to two years, 27 showed severo injury to the constitution and insufficient growth; 32 showed the existence of irregularity of the heart's action, disorder of the stomachs, cough, and a craving for alcohol; 13 had intermittency of the pulse; and one had cousumption. After they had abandoned the use of tobacco, within six months one-half were free from all their former symptoms, and the remainder had recovered by the end of the year. A great majority of men go far beyond what may be called the temperate use of tobacco, and evidences of injury are easily found. It is only necessary to have some record of what the general health was previously to the taking up of the habit, and to have observation cover a long enough time. The history of tobacco in the island of New Zealand farnishes a quite suggestive illustration for our purpose, and one on a large scale. When Europeans first visited New Zealand they found in the native Mnoris the most finely developed and powerful men of any of the tribes inhabiting the islands of the Pacific. Since the introduction of tobaceo, for which the Maoris developed a passionate liking, they have from this cause alone, it is said, become decimated in numbers, and at the same time reduced in stature and in physicd well being so as to be an altogether inferior type of men.

## TO CURE DIPHTHERIA.

#### Turpentine Said to be Almost a Specific to the Disease.

We have on several occasions referred to the use of turpentine in diptheria. Recommended originally in Germany and claimed to be almost a specific, it was there, also, that the employment of the drug was anbjected to the most severe criticism. Some recent publications have again drawn attention to the alleged value of this sub stance, and most remarkable among these is an article which appeared in the Therapeutische Monatshefte. The author asserts that he has employed turpentine in diphtheria for the last four years. In that time he lost only five cases out of sixty that came under treatment. Two of the fatal cases concerned infants, who appeared moribund when first taken, and died a few honrs later. The other fatal cases were also unusually severe from the start, two dying in thirty-six hours, and one surviving five days. This is certainly a noteworthy record, as diphtheria statistics go. The oil of turpentine was administered in dram doses three times a day. Sweet spirits of niter was used as a corrective, in the proportion of one part of the spirits to fifteen of turpentine. Symptoms of intoxication were never observed by the author. In addition to the turpentine, a 2 per cent. solution of sodium sulycilate was given every two hours in tablespoon doses. A gargle of chlorate of potash solution was likewise employed whenever possible, Under this plan of treatment rapid amelioration of local signs and constitutional symptoms was observed. Usually improvement began at once, and it was rarely necessary to push the drug beyond five or eight

doned. 6. A desire, often a craving, for nection, however, that a very generous and liquor or some other stimulant is experi- stimulating fluid diet (strong broth, port wine, milk) formed a feature of Dr. Roese's plan of treatment. Those who are inclined to be skeptical in regard to the utility of medicines in the severer forms of diphtheria (and the profession contains many such) will scarcely accept the author's figures without a challenge. On the other hand, for the very reason that violent diphtheria ordinarily justifies so gloomy a prognosia, we are ever ready to employ any means which may possibly reduce its frightful mortality. There is no reason, therefore, why the turpentine treatment of this disease should not be given a fair trial .-Medical Record

## BAISINS.

Few people in the East, says the New England Growr, comprehend the rapid development of the raisin industry of the Pacific Coast, of the acreage devoted to it, or the amount of capital invested, says the New York Tribuae. A large proportion of consumers is still under the impression that Spain furnishes the entire product. John M. Chapman, whose firm has been appointed as agents of the California Dried Fruit Association, has given the Tribune reporter o ne interesting facts about the management of this luxurious viue product.

Unlike the cultivation of grapes on the Atlantic sea-boards, or in the large vineyards of Ohio, the vines are grown without a trellis, being trained so that the laterals curve over the stalks, thus protecting the froit from the direct rays of the sun. The best fruit grows close to the ground, shaded by the broad leaves. Fruit growing upon the laterals is likely to become sun-burned, and cau only be used for making second quality raisins. The first crop matures about August 15th to 20th; the so-called second crop from September 15th to October 1st. Vines begin to produce at the age of three years, and at six years are in full bearing. An impression prevails that raisins are made from purple grapes; on the contrary, the raisin grape is a translucent green. The principal variety used in California is the white muscat of Alexandria.

The preparation of raisius for the market is a rather simple process. The branches are laid on trays exposed to the sun; evaporation begins almost immediately; after two weeks they are turned over, when the under side is cured in about one week longer, the grape assuming the deep purple tint common to raisins. Some of the hunches after leaving the trays are moist, others are too dry. To equalize the moisture and make the goods of uniform consistency, the grapes are put into sweat boxes holding about fifty pounds; there they remain until a proper condition of moisture is attained. Then they are removed to packing houses, and the clusters are separated from the loose grapes and placed in boxes in layers, making what is known as the London layers of choice table fruit. Bunches that are too small for this purpose or are of a harsh texture are put into a steaming machine, from which they are automatically conveyed to a series of trays or sifters, making "crown" or loose raisins of several grades for cooking. Four weeks on the coast, from the maturity of the fruit, rend r them ready for market,

Grape raising is profitable. A vineyard of good average will yield six tons of

ton on the vines, or \$120 an acre. Old viney ards produce from eight tons, and the fruit brings a better price than the product of younger vines, as it is better adapted to the larger or bouch styles of high price raisins. Thus a forty sere vineyard in full bearing, at six years of age would furnish a revenue to the grower of \$6,000. Labor, however, is high and growers have found it difficult to obtain a full complement of hands to cure a crop needing such prompt attention. This difficulty will be lessened as newcomers thicken. California produces in quantities only the raisins that compete with the renowned Malaga varieties. The Pacific raisin crop of 1888 is expected to approximate 1,000,000 boxes. Some of this has gone abroad owing to the small crops of Malaga this year, and the latter fact will help to distribute the demestic crop through America,

## THE HOP OUTPUT.

A circular issued by Robert Acheson, hon and commission broker of San Francisco, gives some valuable information relative to hop culture in this State.

Last your Alameda county devoted 1.5 acres to this plant and produced 659 bales; Amador, 3 acres and turned out 15 bales; Calaversa, 5 neres and 21 bales; Kern, 60 acres and 438 bates; Lake, 104 acres and 631 bales; Los Angeles, 15 acres and 134 bales; Mendocino, 1,019 acres and 6,276 bules; Merced, 15 acres and 103 bales; Monterey, 17 neres and 191 bales; Napa, 44 acres and 312 bales; San Joaquin, 107 ncres and 681 bales; Sacramento, 1,081 acrea and 11,173 bales; San Mateo, 18 acres and 60 bales; Santa Cruz, 86 acres and 1.058 bales; Shasta, 12 acres and 41 bales; Sonoma county's output by districts is as follows: Forestville, 71 acres and 478 bales; Freestone, 9 and 26; Fulton, 81 and 513; Gnerneville, 25 and 168; Healdaburg, 141 and 970; Mark West, 10 and 285: Petaluma, 22 and 126; Sauta Rosa, 464 and 2,888; Sebastopol, 140 and 915; total-996 acres and 6,399 bales. Sutter, 85 and 900; Yolo, 315 and 2,537; Yuba, 230 and 2,417; total for the State, 4,417 acres and 34,085 bales. These statistics are simply estimates, but reasonable confidence may be placed in their correctness.

The quality of Oregon and Washington Territory hops was not up to the standard last year. In that State the area devoted to the cultivation of this plant was 2,950 acres and the product 18,000 bales. In Washington, the production was 38,000 bales and the acreage 4,350. Total production on the coast 90,085 hales. The following disposition has been made of the

California shipped overland by rail 22.835; export shipments by water, 700; stock purchased by coast brewers, 4,000. Oregon shipped overland by rail, 16,000; export shipments by water, 100; stock purchased by coast brewers, 300. Washington Territory shipped overland by rail, 32,850; export shipments by water, 50; stock purchased by coast brewers, 100; total sbipments, 77,535; stock left on coast, 12,550.

There are said to be less hops in growers' hands just now than at the same time for minny sensons past,

The MERCHANT is the only wine journal

#### CULTIVATING GRAPE VINES.

In an article in the Rural Californian Dr. S. A. Merrill, of Pomona, suggests a new idea on the relation which the present methods of vine cultivation bear to disease. He says:

It appears from recent microscopic investigations, as reported in the public prints, that the "vine disease" which has made its appearance in Southern Culifornia is caused by a minute parasitic plant, or fungus,-probably a Cryptogam of the suborder, Protophyte, - some of which simulate animal life so far as to be classed among the Animalculæ, and propagated by exceedingly minute sporules.

It is not unlikely that the disease is similar in origin, if not in kind, to the Phylloxers, that has made such extensive ravages in the vineyards of France. That is, if we may be allowed to form a correct idea of the malady the French vineyardists have been obliged to contend with, from the origin and derivation of the word itself.

The term Phylloxera evidently comes from two Greek words-Phyllon, a leaf, and Neros, dry; -literally, the " leaf dry." From this it would appear that the French and California diseases are essentially alike.

The disease, whatever it may be, seems to have the property of extending itself from the domestic to the wild varieties of the vine.

Indeed this is jast what we ought to expect. That a disease, like this one, which has its origin in abnormal and depraved subjective conditions-as I shall attempt to show-will spread contagiously by germ multiplication from unhealthy to healthy vines.

But where are we to look for the real cause of this singular and formidable disease? Is it a purely objective malady, growing out of unfavorable climate, seasons, soils, etc? Or is it not chiefly subjective, originating in a defective and disordered vitality, and the result of protracted and artificial modes of propagation and culture? To this latter hypothesis we shall strongly incline until the contrary rule shall have been established by proper investigation and experiment.

E And first in regard to our methods of propagation, which, in respect of its own mora natural mode, are abnormal. The vine is a plant of higher order than the simple fissiparous and gemmiparous plants. True, it an exceedingly hardy, vigorous plant, tenacious of life, and capable of being propagated easily in all ways. But it belongs to the highest order of germiparous, or seed-producing, seed-originating plants and should once in a while be renewed in its vital organism, by going back to the original and normal processes by which nature propagates it, and perpetuates its vital energies.

A second and probably still greater deviation from the natural life and habits of the vine, is the almost universal system of cramp-culture that obtains in all countries and climates. By this artificial mode of culture the plant is constantly deprived of its folisge, which forms the lungs of the plant-that organ by which it perspires, and by whose aid the stomach (the roots) of the plant is enabled to carry on those processes by which it lives and grows.

This constant annual removal of almost the entire plant lung of the vine, while the unpraned and disproportionately developed root is left free to force its undue and excessive plant-food and other stimuli, abundant in that section, and will some day with every returning year, into the newly command a good price,

forming embryonic lungs of the planttends finally without doubt to a diseased condition of the entire plant, and in particular of its foliage. The roots become abnormally developed for the actual size of the plant, too much sap is forced into the leaves to form healthy lnng-cells, and with the lapse of centuries of such artificial culture they become a fruitful soil for the spontaneous generation and growth of parasitic plants, and even animals.

What is the proper and radical cure of the disease? A return to natural methods. Propagate the vine de nevo, as has been done already with the potato-from the seed. Produce not only new plants, but new and better varieties, when once the work of improvement has been carried far enough to evolve new kinds.

Abandon the old and absurd methods of culture. Let the plant grow to semething nearly its natural size and shape. Plant it, if need be, in rows the usual distance apart, and at the end of a given period of time dig out every other vine. At the expiration of another similar term of years remove the second alternate plant.

Managed in this way, the top will ad vance pari passu with the root; a more vigorous, healthy, constant, and better proportioned foliage will be developed, with bealthy lung-cells, and hence the entire plant will be far less liable to the iuvasion of those parasites which are for the plant what tubercles are for the animal system.

It appears to be a universal law in all plant as well as animal life to develop microbes of various kinds in nearly all long continued and widely extended abnormal states. And these parasites either tend to aggravate the original disease, or to produce new ones.

And right here is offered one of the finest opportunities for some of our practical, intelligent and wide-awake horticulturists to confer a vast benefit upon society, and at the same time lay the foundation of a privata fortune.

It should be the aim of science to accomplish for the various fruits what the breeders of fine stock have already done for the various kinda of domestic animals -viz: cultivata out in the direction of certsin points until some distinct and pure variety has been reached, that will produce its own kind from the seed.

In this way California fruit-growers would soon be able to produce new and superior varieties of the raisin, orange, fig, prune, olive, apple, pear, and many other fruits better adapted to soil, climate, etc., that would for a time at least give our beloved State the lead in all the chief markets of the world. With these few brief and imperfect hints, Mr. Editor, I will

BIG TREES-There are forest giants elsewhere than on the Pacific slope. Green and Wilson counties, in North Carolina, afford many examples, among which, according to a correspondent of the Raleigh News, is one pine tree which measures 22 feet in circumference and would make a stick of timber, solid heart, 6 feet wide and 35 feet long, or straight edge plank 5 feet wide and 35 feet long. Another pine measured 18 feet in circumference and 100 feet to the first branch. Some white oaks measured would make plank 2 feet wide and 60 feet long. A pina measured 41/2 feet in diameter and 142 feet in length. These immense trees, the correspondent says, are

#### WINES A CENTURY OLD.

Savannah is believed to have the oldest wine in America, says the News of that city. A well-known Savannahian who is a connoisseur in wines, said a few days ago that he has a lot of Madeira of the vintage of 1833-over half a century old.

There are wines in Savannah, though, much older than that. Some of the oldest families here have Madeira nearly a century old. One gentleman has several lots of the famous All Saints' Madeira, imported in 1791 and 1793, the year of the great fire in Savannab. Two pipes were imported that year, one for the great-grandfather of the late William Gibbons, and one for the father of Mat H-yward, a prominent South Carolina planter. The night of the fire one pipe was left under the bluff by mistake, and the other was burned upon the bay. The pipe under the bluff was divided between Gibbons and Heyward as the only fair way of settling their loss. Th gentleman who now has several lots of the wine benght it from Gibbon's and Heyward's descendants, eighty years after its division.

Then there is the famous Hunter wine imported about the same time. Some of i is still in the hands of frinds of the family, the late Mr. De Renne, who inherited some of this wine, was often offered \$100 a bottle for it.

One gentlemen has over twenty lots imported from the old Madeira house of Newton Gordon from 1802 to 1830. Savannah was a large wine importing port a century ago. The following is a fac-simile of an o'd bill of lading for a heavy shipment of wine in 1780, the completion of a single order for 500 pipes, or 1,000 hogs-

"Shipped by the grace of God, in good order, and well-conditioned, by Newton Gordon and company iu and upon the good ship, called the Two Sisters, whereof is master, under God, for this present voyage, Wm. Smith. And now riding at anchor in the road of Funchal and by God's Grace bound for Savannah or Charleston, to say, 155 pipes fifty hogshead, and forty quarter casks equal to two hundred pipes of Madeira wine-and also twelve boxes lemons and some onions, all for account and risk of John Shoolbred, Esq., being marked and numbered as in the Margin, and are to be delivered in the like good order and well conditioned at the aforesaid Port of Savannah or Charleston (the danger of seas only excepted) unto Wm. Smith, and in his absence to Mr. J. Shoolbred and Moodie, or to assigns, he or they paying freight for the said goods with primage and average accustomed. In witness whereof the Master or purser of the said ship hath affirmed to five bills of lading, all of this tenor and date the one of which five bills being accomplished, the others to stand void. And so God send the good ship to her destined Port in safety. Amen. Dated in Madeira this 20 June, Wm. Smith,"

## MEDICATED WINES.;

The thirty-first report of the Commissioners of Her Majesty's Inland Revenue, says the London Lancel, contains a variety of interesting information, covering the net receipts from excise, stamps, land tax inhabited house duty and income tax. While the report is largely concerned with financial details clearly arranged in tabular 'soldier,' and at 7.30 P.M., a 'finisher.'"

form, the report by the principal in the laboratory in the appendix exhibits in small space the results of considerable labor extended over a wide range of sqbjects. The increasing difficulty of keeping the sale of liquids centaining alcohol in legitimate channels is illustrated by refer. ence to the so-called medicated wines which are said to be quite suitable for use as beverages. Two liquids of semi-medical names are mentioned as only possessing "their respective prefixes to distinguish them from champagnes of ordinary quality." It has long been well known that many temperance drinks contain many varying proportions of alcohol. In this report it is stated that the sample of elderherry syrup examined contained 8.7 per cent. of proof spirit, that of "non alco-holic ginger cordial," 10.8 per cent.; that of "unfermented sherry," 18 per cent.; and that "cowslip wine" (which looks oddly in this class), no less than 28,9 per cent. "Temperance" beverages have always been regarded with anspicion; but he medicated wines have been attracting he attention of the revenue officers by heir flavor, and by the size and frequency of the doser commended. Whether habits of temperance are likely to be tostered by hem is a question b youd the scope of tha eport, which is confined simply to the statement that an alcoholic liquor emoloyed as a beverage, of necessity becomes subject to revenue dues.

#### TEMPERANCE CORDIALS.

The chemist to the Board of Health of Massachusetts has published a report on investigations recently made by him into the tonics and bitters advertised and used in the United States. Forty-six out of 47 examined were found to contain alcohol in quantities varying from 6 to 47.5 per cent. the average being 21.5 per cent. One advertised as "not a rum drink" contains 13.2 per cent.; a "coca beef tonic," which is said to contain some sherry, actually contains 23.2 per cent., while sherry contains only from 18 to 20 per cent. Another described as a purely vegetable extract, a stimulus to the body without intoxicating" contains 41.6 per cent. of alcohol, while whisky and brandy contain only 50 per cent. This particular tonic is especially recommended to inebriates struggling to reform, because "its tonic and sustaining influence on the nervens system is a great help to their efforts." Another tonic, said to be distilled from seaweed, and quite harmless, contains 19.5 per cent. of alcohol and certain "German bitters," which are advertised as purely vegetable and free from alcoholic stimulant, have 26.5 per cent. Certain "sulphur bitters" contain no sulphur, and though advertised to contain no alcohol, actually contain 20 5 per cent-One maker's "concentrated sherry wins bitters" contain 47,5 per cent. of alcohol, or barely 2.5 per cent, less than brandy, while another "stomach bitters" centain 42.6 and a third 44.3 per cent. of alcohol, Of the whole 47 tonics and bitters examined only one was free from alcohol, and the average alcoholic strength was greater than that of sherry.

A newspaper published in Flauder states that "the daily consumption of an ordinary drinker-not a drunkard-thera includes: At 5.30 A. M., a 'worm killer;' at 8 A. M., an 'eye opener;' at 11 A. M., a 'whip;' at 2 P. M., a 'digeater;' at 5 P. M., a

#### SUGAR REFINING.

In view of the recent collapse of the fraudulent electrical process for refining sugar, the following description of the genuine process from the L'opular Science News will have timely interest:

"Sagar is a peculiar product of many

different species of plants, but the greater

part of that consumed is obtained from the sagar-cane and but root. It has been known in the East Indies and China from a very remote period, but has only been generally naed in Europe and America since the beginning of the eighteenth century. Previous to that time it was an expensive luxury instead of the cheap necessity of life which it has now become. Beet sugar is extensively used in Europe, the cultivation of the root being stimulated by the governments, but in this country the supply is principally obtained from the sagar-cane plantations of the Southern States and the West Indies. The sugar cone belongs to the family of grasses, and contains about eighteen per cent, of pure sugar, although not more than one-half of this can be actually realized. The caues are crushed between rollers, and the expressed juice boiled down to the proper point and allowed to cool and crystallize. The most impure dark colored mass of crystals obtained by this process, is known as raw sugar and is shipped to the refineries, while the liquid which drains off is known as molasses, and consists of a mixture of cane-sugar, inverted sugar, caramel, etc., with a liberal admixture of "extraneous matter," that is, dirt. The process of refining the raw sugar and converting it into the white, brilliant, and chemically pure crystals of granulated or loaf sugar, is an interesting one. The raw sugar is dissolved in water, strained to remove the coarser impurities and pumped into large tanks, where a quantity of albumeu, usually in the form of ox blood, is added, and the mixture heated until the albumen coagulates or becomes solid. In so doing it separates out the impurities which, entangled in the mass of albumen. rise to the top of the liquid as a thick scum which is pressed dry and solid as a fertilizer. This process is exactly analogous to the "clearing" of coffee with the white of an egg, the only difference being in the source from which the albumen is derived. 'The solution of augar is now perfectly clear and pure, but is still of a dark color, which must be removed. This is done by filtering it through long iron vessels filled with bone-black or charred bones coarsely ground. This bleaching property of boneblack is not very well understood, but is a most valoable quality in many other arts besides that of sugar refining. The impurities are doubtless attracted and held by the pores of the bone-black, as it loses the property after awhile and must be burned over again to restore its power. Wa now have a clear, colorless solution, consisting principally of saceharose or crystallizable sugar, with varying amounts of inverted or uncrystallizable sugar. It is only necessary to concentrate it by boiling and allow the sugar to crystallize out. however, this is done in an open pan under the ordinary pressure of the air, boiling will only take place at a temperature aufficiently high to "burn" the sugar and form caramel and other undesirable substances. The evaporation therefore takes place in a vacuum pan, an air-tight hollow vessel heated by a steam coil and from which the air and water-vapor are exhausted by a powerful pump. According to the gallery. The atrong headed ones stood it whisper of it till Thursday. Three leading Francisco Meachant.

well-known principle that the boiling point tolerably well. Bacchus had never an easy of a liquid is lowered as the pressure upon it diminishes, the clear syrup boils at a sufficiently low temperature-from 114 degs, to 150 degs,-to prevent the alteration or decomposition of the sugar, process of evaporation requires great experience, and only a thoroughly skillful workman can obtain a complete and uni formly crystallized product. After the concentration has reached the proper point the syrup is drawn off and allowed to crystallize, forming granulated angar. The mother-liquor or syrup is drained from the crystals and boiled over again and a fresh crop of crystals obtained, and this process is repeated several timea. These products are of interior quality and are sold under various names as "coffee crushed," and 'brown' sugars. There is a popular opinion that these sugars are sweeter than the more reflued article, but this is a mistake. and they are really less economical to purchase, as they contain more or less moisture and glucose for which a comparatively high price is paid. The crystals of granulated sugar are dried without heat by a most ingenious machine known as the centrifugal drier. It is a cylindrical vessel with finely perforated sides, which is filled with the moist sugar and rotated with great velocity. The water is thrown off through the sides by the centrifugal force, leaving the angar almost dry, a simple exposure to warm air only being needed to complete the process, and it is then ready to be sifted into barrels and sold in the market. Loaf sagar is refined in the same way, but the concentrated syrap is allowed to crystallize in conical molds, so that it hardens into a solid mass which is afterwards cut up into lumps. Rock-candy i sagar which has been allowed to crystallize slowly so as to form large crystals. Granulated sugar is one of the purest arti cles of food produced. It is rarely or never adulterated, the characteristic form of its crystals rendering any foreign admixture vident apon simple inspection."

## SOME OLD TIME DRINKERS.

In the late Lord Cockburn's "Circuit Journeys" it is recorded that "at Edinburg the old Judges had a practice ut which even their barbaric age used to shake its head. They always had wine and biscoits ou the bench when the business was to be plainly protracted beyond the usual dinner hour. The modern Judges-those I mean who were made after 1800-never gave in to this; but with those of the preceding generation, some of whom lasted several years after 1500, it was quite familiar. Black bottles of strong port were set beside them on the bench, with glasses, carafea of water, tumblers, and biscuits; and this without the alightest shame or attempt at concealment. The refreshment was generally allowed to stand untouched and as if despiaed for a short while, during which their Lordships seemed to be intent only on their notes. But in a little while some water was poured into the tumbler and aipped quietly, as if merely to austain nature. Then the few drops of wine were ventured on, but only with the water. Till at last patience could refrain no longer, and a full bumper of the pure black element was tossed over, after which the thing went on regularly, and there was a comfortable manching and quaffing, to the great envy of the parched throats in the

victory over Braxfield. But it told plainly enough upon the feeble or the twaddling, such as Eskgrove and Craip. Not that the ermine was absolutely intoxicated. But it was certainly muzzy. This, however, was so ordinary with theae sages that it really made little apparent odds upon them. Their noses got a little redder and their speech somewhat thicker, and they became drowsier. But these changes were not perceptible at a distance; and they all acquired the habit of sitting and looking judical enough, even when their bottles had reached the lowest ebb."

Lord Cockburn himself never emulated these giants, not even in his younger days when he bids thus; "Take notice, there never was the slightest drunkenness. Elevation there was; but it stopped far, far below the intoxication mark. Excess in wine was never the habit of any set of friends into which I have been thrown.' Yet at his Jedburg circuit dinner in 1851 "uineteen persons drank thirty-five bottles of port."

#### THE ORIGIN OF COLORS.

The cochineal insects (says Invention) farnish a great many of the very fine colors. Among them are the gorgeous carmine, the crimson, scarlet carmine, and purple lakes. The cuttlefish gives the sepia. It is the inky fluid which the fish discharges in order to render the water opaque when attacked. Indian vellow comes from the camel. Ivory chips produce the ivory black and bone black. The exquisite Prussian blue is made by fusing horses hoofs and other reluse animal matter with impure potassium carbonate. This color was discovered accidentally. Various lakes are derived from roots, barks and gums. Blue black comes from the charcoal of the vine stalk. Lamp black is soot from certain resinous substances. Turkey red is made from the mudder plant which grows in Hindostan. The yellow sap of a tree of Siam produces gamboge; the natives catch the sap in cocoangt shells. Raw sienna is the natural earth from the neighborhood of Sienna, Italy. Raw umber is also an earth found near Umbria and hurnt. India ink is made from burnt camphor, The Chinese are the only manufacturers of this ink, and they will not reveal the secret of its manufacture. Mastic is made from the gom of the mastic tree, which is in the Grecian Archipelago. Bistre is the soot of wood ashea. Very little real ultramarine is found in the market. It is obtained from the precions lapis-lazuli, and commands a fabulous price. Chinese white is zinc, scarlet is iodide of mercury, and native vermillion is from the quicksilver ore called cinnabar.

## A SUGAR SYNDICATE.

It is stated that the lateat development of the syndicate idea is the International Sugar Syndicate, which proposes to promote or oppose legislative and other measurea affecting the sugar trade, and to assist in the readjustment or modification of State subsidies, drawbacks, and bounties, to prevent the use of deleterious substitutes for augar, and to do a variety of other things for the benefit of the augar trade. A Glascow correspondent says: The news of the formation of an international augar syndicate has surprised the commercial community of Glascow, for there was not a

men in the snear trade who have been interviewed say they never heard of a syndicate, and they do not see how it could work. The probability is that Scotch sugar people have not been sounded on the subject. It has never been mooted on the Clyde sugar market. A Bristol correspondent says: Although Bristol is one of the most important sugar refining centers in the kingdom, the reflacts h re were in no way communicated with in reference to the international syndicate. So far as home action is concerned, the Sagar B finers' Association and the Grocers' Association, the Bristol refiners' state represent the sugar industry effectually.

## FORETELLS FROST

For the benefit of farmers G neral Greety gives the following simple and definite method by which in clear, cool weather, near the period of early or late frosts, a person may determine with considerable accuracy if frosts will occur the following night:-"The approach of local frost can be foretold with very considerable accuracy from the readings of properly exposed dry and wet thermometers. A safe and simple rule to follow when the temperature is at 59 degrees, or below, is to multiply the difference between the r adings of the thermometers by 2 5, and when the sum thus obtained is subtracted from the reading of the dry thermometer, it I aves the approximate degrees to which the temperature of the air will fall the coming night, nuless change of wind to a moist r quarter or increuse of cloudiness interferes. The value and importance of obs. rvations of this kind have not been sufficiently impress d upon farmers cultivating crops of a kind suse ptible to frost and capable of protection." may be stated in this connection that the 'wet thermometer" mentioned above, is an instrument the balb of which is kept moist by its contact with a bit of lamp-wick fed from a small reservoir of water.

TIGER'S MILE-An East India draught called "tiger's milk" is not generally known. Add the beaten yolk of three eggs to two tablespoons of white sugar, three cloves, the rind of half a leman and half a pint of imperial crown brandy. Pour over it a quart of new warm milk, stirring rapidly and immediately. This is recommended for those who live in malarial districts, says Medical Classics, and for delicate persons before breathing the crisp air of autuma or winter. A wineglass full will be suffici at in this cliquate.

## FARM FOR SALE.

Two hundred acres in Sonoma County. ten minutes drive from railroad station, Forty acres planted in the fluest variety of vines. The balance rich river bottom, and rol ing land capable of the highest cultivation. Several never failing springs and plenty of oak and redwood timber on the property. Good house, large barn, and out buildings. Scenery, climate and roads nnexcelled. Good fishing and hunting in the neighborhood all the year round. One of the most elegant and profitable auburban homes in Northern California,

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FRIDAY.....FEBRUARY 1, 1889

DURING THE 120 years which have elapsed eince the first olive trees were planted in California, the industry has been gradually gaining ground. The cuttings obtained from Mexico, and planted at the old Mission of Santa Barbara by the padres are gnarled with age, their place being taken by extensive orchards of the choice varieties from Southern Europe. The past year has developed a more marked interest in olive culture. The adaptability of the tree to the more temperate climate of the north. ern portion of the State, and to lands practically useless for agriculture, has attracted public attention and led to the planting of a large area in orchards. Much time and attention has been given to the subject by competent writers throughout the State, resulting in a fund of information, being compiled from all sources both practical and theoretical, for the use of the planter. The MERCHANT devoted considerable space in the last issue to a comprehensive article on the subject, from the pen of Secretary B. M. Le Long of the State Horticultural Society. Its perusal will be interesting to those engaged in the business. In the choice of varieties, much depends upon individual taste. Old Californians still maintain the superiority of the old Mission, and it is noteworthy that the pioneer orchard of the State is made up of this single variety. The returns from orchards estimated at \$1,000 per acre, seem to just tify the owners' opinion that with such a showing there is little to be gained in experimenting with other varieties which have not been proven. The prospects for the coming year, based upon the extensive plantation now going on in Santa Clara and other counties of the State, are, that the production of olive oil will soon rauk as one of our most prominent indu -

DUBING THE eleven months ending November 30, 1888, the imports of merchandise into the United States, amounted to \$664,744,506, against \$656,707,250 during the same period in 1887. The exports for the same period in 1888 amounted to \$594,867,465 against \$631,357,178 in 1887.

THE WINE Exchange at Platt's Hall, under the anspices of the Viticultural Commission is gradually developing a practical utility to dealers and growers. The roomy premises afford opportunities for display, and the surroundings are cheerful, good light and good air furnishing attractions which are not to be despised from a business view. The café is under the macage. meut of Pierre Klein, a local restaurauteur of reputation, and the wines Inrnished are open for selection from the lending vineyards of the State. Among the exhibitors we note the following: "Tokalon" II. W Crabb, Oakville, Napa County; "Burgundy Vincyard," J. B. J. Portal, San Jose; Napa Valley Wine Company of Napa City and Yountville; Charles Krug of St. Helena, Napa County; Purity Wine Company o 303 Battery street, San Francisco; Mont Rouge, A. G. Chauchie, Livermore, Alameda County; Ben Lomend of Santu Cruz, Cal.; Schramsberger, Jacob Schram, St. Helena, Napa County; Cresta Blauca Souvenir; Charles A. Wetmore, Livermore, Alameda County; Arpad Haraszthy & Co., Orleans Vineyard, Madeira, Yolo County; Los Gatos and Saratoga Wine Company, Les Gatos, Santa Clara County; Olivenia Vineyard, Livermore, Alameda County; San Gabriel Wine Company, Ramona, Los Angeles County; Kohler & Frohling, J. Guudlach, L. J. Rose & Co., I. De Turk of Santa Rosa; Hedgeside Vineyard, Napa County; El Pinal Vineyards of Stockton, J. L. Beard. Alameda County; Summit Park Vineyard, Sonoma County; V. Courtois Larkmead, Napa County; Paul O. Burns Wine Compauy, San Jose; R. M. Wheeler, St. Helena, Napa County; New Almaden Vineyard, San Jose; C. Schilling & Co., E. J. Baldwin, Santa Anita, Los Angeles County; Naglee Viueyard, San Jose.

It is the prevailing impression that the London Exhibition will be of more service in advertising the varied products of California than the World's Fair to be known as the Paris Exposition. Here the exhibit sent from this State will simply be dumped in, to form the aggregate of some particular class, the only distinguishing mark heing a small label. In London, however, the arrangements will be more satisfactory. Each county will have a separate space allotted for its individual products, thus avoiding any disagreeable mistakes in the way of confounding a Californian grape with an Abyssinian plum. This will afford a rare opportunity for advertising the varied resources of the State and also extending our trade. The exhibit should be large and carefully selected. To do this properly will require money and organized action on the part of the different industries. It will be of general benefit to the State, and therefore the State should aid the enterprise. The reputation of California will be staked on her display, and neither time nor money should be spared in providing an appropriate representation.

The following record of New York receipts of California wines and brandies for 1588 is given in Bonfort's Circular: Edinger Bros. & Jacobi, 587,720 gallons of wine and 176,612 gallons of brandy; B. Dreyfns & Co., wine, 574,100 gallons, brandy, 24,900 gallons. Kohler & Frohling, wine, 542,930 gallons; brandy, 21,047 gallons. San Gabriel Wine Company, wine, 312,715 gallons; brandy, 28,210 gallons. Gretsch & Mayu, 70,071 gallons of wine and 10,790 gallons of brandy.

THE AGRICULTURAL College of Culorado located at Fort Collins, has been experimenting with several varieties of sugar beets. Four varieties of sugar heets were received from the Department of Agriculture at Washington last spring, and were sown April 15, on a fourth of an acre of ground. The plot was irrigated four times, cultivated six times and hoed twice. The varieties are as follows:--Lane's imperial, roots smooth, skin white, reddish tint, growing underground; estimated yield per acre, 30.45 tons. Excelsior sugar, roets smooth, skiu dull white, growing under. ground; estimated yield per acre, 29.4 tous, Vilmorin sugar, roots smooth, skin white with a purple tinge, somewhat wrinkled, growing underground; estimated yield per acre, 25.9 tons. Improved imperial sugar, roots rough, skin dull yellow, growing one-half above the surface of the soil; estimated yield per acre, 24.15 tons. The soil in which these varieties were grown is a clay loam which had been in clover sor for three years previous, and was plower under in the fall of 1887. Analyses of th above mentioned varieties were made b Prosessor David O'Brine for the purpos of determinating the percentage of sugar in each, with the following result:-

 Excelsior
 Per cent.

 9.5s
 Lane's imperial
 12.8t

 vilmorin
 11.3t

 Improved imperial
 8.83

According to these analyses a ton of excelsier sugar beets would contain 191.6 pounds of sugar; a ton of imperial, 256 pounds of sugar; a ten of vilmorin, 317.8. The yield of sugar beets in France under average conditions is sixteen tons to the acre, containing sugar to the amount of 12 or 13 per cent.

MUCH INTEREST is being evinced in scientific circles as to a wouderful plant which, it is claimed, is an infallible indicator of change of weather. The British consul-general in Vienna has been instructed by the foreign office to request Professor Novak, who is the discoverer of this famous plant, to furnish him with information about it. The committee of the Jubilee Exhibition which has just closed has promised Professor Novak a certificate to the effect that the weather forecasts made by his plants were correct in ninety-six cases out of one hundred. The professor has made arrangements with Mr. C. W. Radeke, of Clapham common, London, to exhibit the plant in England, and to answer all inquiries about it. Further, Herr Novak wishes it known that his plants are now giving indications of shocks of earthquake, which may be expected to occur during the coming week within one hundred German miles south of Vicuna.

RECENTLY THE Hen. J. De Barth Shorb. sent a letter to the Board of Supervisors, of Los Angeles, describing the work he was doing in trying to find out what is causing the disease which affects not only the grape vines in Les Angeles county, but those of Napa and Sonoma counties. He also asked that the Supervisors give him some assistance in the experiments he was making, and appeared before the Supervisors to explain verbally the amount of work that had been done and what he expected would be ascertained by bis experiments, Supervisors decided to appropriate \$300 for assisting in the experiments and \$100 for his Secretary,

ONE HALF of the wines which will be naed at the inaugural ball will be of native growth. This concession to the home industry is due in a large measure to the persistent advocacy of Miss Kate Field, who is now lecturing in the East on "The Gospel of the Grape." That her apostolic mission is bearing good fruit, is evident from the hearty approval which on every side has greeted her patriotic suggestion that only American wines should be used on this august occasion. Half a loaf is better than no bread, and Californian wine growers will fully appreciate the untiring energy and friendly interest which Miss field has displayed in their behalf.

WE ARE in receipt of a pamphlet issued by H. T. Dewey & Son, American wine, champagne and brandy merchants of 133 Fulton street, New York. This firm is a pioneer in the native wine trade, having for the past thirty years confined its dealings to the product of American grapes. It is seldem that during such a length-med experience a metropolitan house can say like Dewey & Son, that they have "never put a foreign label on a bottle, or sold a gallon of any but American wines and brandy."

THE FOLLOWING are the lengths of the six lines of railroad connecting the Atlantic and the Pacific: Union and Central Parific, New York to San Francisco, 3,315 miles; Southern Pacific, New Otleans to San Francisco, 2,495 miles; Atchison, Topeka and Santa Fe, New York to Guyamas, 4,024 miles; Atchison, Topeka and Santa Fe, New York to San Diego, 3,217 miles; Northern Pacific, New York to Tacoma, 3,302 miles; Union Pacific, Oregen line, New York to Portland, 3,285 miles; Canadian Pacific, New York to Vancouver, 3,166 miles. From Vancouver City to Montreal is 2,906 miles.

IN A LETTER to the Los Angeles Ilerald, on the vine disease, Mr. Shorb takes a very sensible view, in refusing to make a sectional issue of a matter of common interest to all viticulturists in the State. A danger threatening one quarter must be anticipated by all, and combined efforts made to exterminate it early in the fight. Puling over difficulties is not the religion of Californiaus, and those who are weak enough to howl over calamities, should take a back seat early in the game—new counties and new industries have no room for dyspeptics or saivellers.

THE "ICEBEEG" which sailed for New York on the 20th inst., carried the most valuable shipment of wine and brandy ever made by one firm from this city. It was consigned by the Sonoma Wine & Brandy Company of Stockton to their house in New York, and consisted of 534 packages of brandy and 1662 packages of wine, valued at \$66,942.

THERE ARE eight hundred and fifty theusaud stockholders in the Panama Cana Company, who have put three hundred million dollars of hard cash into the enterprise and all that they have now to show for the money is \$100,000,000 worth of machinery, \$150,000,000 worth of uncollectable bills against swindling officials, and \$50,000,000 worth of uncompleted canal. This is certainly not a good showing, and the story that an American syndicate has taken hold of the matter, and will complete the canal, may be] taken with a grain of salt.

#### THE VINE PEST.

#### A Pointed Letter on the Subject From Mr. De Shorb.

Los Angeles Herald.)

A short time ago the Messrs. T. C. White and George E. Freeman, of Fresno, wrote the Los Angeles Herold a very caustic note arraigning Mr. J. De Barth Shorb, of this county, for having stated that the vine pest threatened the viticultural interests of the State at large. They were quite caustie, and one would suppose, from their confilent tone, that anything like a viticultural drawback had never been heard of in Fresno county. The matter is of such vital importance to the whole of California that we treat it editorially. Below we give the letter of the Messrs, Freeman and White:

EDITORS HEBALD: -- Oor press this morning states that J. De Barth Shorb stated yesterday that "the same vine disease that is now troubling your region is ruining the vineyards of the entire State." Mr. Shorb could not in honor make such a sweeping statement without the fullest knowledge of the fact. Now, the vineyardists of Fresno county demand from him the proof of this, at least as it relates to this region. Such a statement without proof is an outrage against large portions of this State. signers of this note are two large vineyardists of Fresuo county, and are doubtless as well acquainted with the state of the vine, yards here as any other persons.

We have never heard of such a disease in this region, and with a careful and most extensive observation have never detected the first evidence of it, and feel certain that it has never been discerned north of Los Angeles county. Through your colnmns we ask Mr. Shorb to inform as on what anthority he bases his statement. If it is true we wish to know it; if false he must at once see the gross injustice he is doing this and other parts of the State, and we demand that he should at ones retract such declaration. T. C. WHITE,

GEO. E. FREEMAN.

Fresno, January 9, 1889.

Our Los Angeles viticulturist meets the issue raised with visor closed and lance conehant, and it must be borne in mind that he speaks from the standpoint of anthority. He was officially directed by the Viticultural Commission to make inquiry into this threatening visitation. We give bia letter below:

Enixors Herald:-Referring to the foregoing open letter, that I may be able to answer it satisfactorily and fully, I must ask that you republish it. I am sure I do not know what paper those apparently irate gentlemen refer to, as "our press," and not having the statement before me to which they refer, or knowing who has quoted me, possibly I may fail in giving Messrs. White and Freeman entire satisfaction, and yet I will try.

My anthority for saying that I believe "the disease" was unfortunately spread all over the State, is the microscopic identification of the same disease on vines and leaves sent to us by Mr. Isanc De Turk, Commissioner for Sonoma District, for examination and identification. They were reported on by Prof. Ethelbert Dowlen, seientific expert in charge of this investigation, to the Commissioner, which report is publi hed in full in the San Francisco Men-CHANT of January 4th, by the authority of the State Viticultural Commission. I presome these gentlemen have not seen the to all vineyardists throughout the State, stroyed 100,000 barrels of the fruit.

San Francisco MERCHANT nor the San Francisco Chronicle, which published this fact some time about January 1st. During the month of August last I visited Sonoma county and observed there very suspicious signs among the vines; and calling attention to the same, I was assured that what I saw was the result of "the very hot blast," and nothing more. As I have inv sted in the "must business" along with my associates about \$130,000, and the plant is located at Geyserville, Sonoma county, depending upon the vineyards there to supply the grapes for our business, I am surely interested directly in the vine interest of that county, and view with deep concernull that may in any wise affect the same Profs. Scribner and Viola are reported us saying the same disease is in Napa; nor does Mr. Krug, Commissioner for the Napa district, deny that a disease at least similar was located there. As no leaves por canes have been examined from Napa, this report lacks scientific determination.

Mr. G. C. Hagar, of Orange, known by all in this county as a gentleman of great intelligence and entire reliability, informed methat Mr. Robert McPherson, of Orange, who has suffered severely from "the disease," and who has been studying it closely for the past three years in his own vinevards, had recently returned from a visit to Fresno and reported that "the disease" was also there in the vineyards. I think I mentioned this fact to Mr. George West, Commissioner of the Stockton District, at the semi-annual meeting of the Board. He is largely interested at Minturn in Fresno county, and I am sure he took no offence at the statement.

If Messrs, White and Freeman "never heard of such a disease" "north of Los Angeles county," they simply convict themselves of a want of knowledge which they might easily have obtained in reading the MESCHANT, Examiner or Chronicle. I believe this answers the "open letter" and relieves me of the charge these gentlemen would like to fasten on me, of making unwarranted statements. I believe I am sufficiently well known in this State and Fresno county not to permit any such uncalled for letters to rathle my temper; but is not "the wounded bird told by its flatterings?" The Viticoltural Commission at their semi-annual meeting charged me with the responsibility of this investigation. This trust I endeavor to discharge to the best of my ability, and certainly I will not be turned aside by any hostile letters from any quarter, or fears of invoking sectional prejudice and bad temper. In conclusion, I may be permitted to ask of these gentlemen, if they have visited our infected distriet and there inspected and examined "the diseased" vines and made themselves thereby fami iar with its symptoms or indications, so as to enable them to identify it elsewhere? and if not, how "could the most extensive observations" result in safe eonclusions even to themselves? no time, gentlemen, for the exhibition of any sectional feeling; the common enemy and dancer should unite us all; first, into close examinations and investigations as to the presence of the disease in any locality and secondly, in an earnest effort to discover its origin or nature, and thirdly, when known, in a determined effort to stamp it out, and devise means for its pre-

Mr. John H. Wheeler's (Chief Executive Viticultural Officer) open letter addressed

and published in the MESCHANT of January 4th, will show conclusively how anxions the Commission is to discover all the facts obtainable, and to aid all grape growers in identifying "the disease," and I would carnestly advise all parties interested to read his letter and follow his advice.

If the aid of the microscope is invoked by any one in making the investigation for himself, let not sectional prejudice induce him to look through the wrong end of the glass in the direction of his neighbors.

Respectfully, J. DE BARTH SHORD.

San Gabriel, January 12, 1889.

## WHOLESALE MARKET.

Quotations kiven are for large lots to the whole sale trade. CALIFORNIA RAISINS.

Halves, Quarters and Eighths, 25, 50 and 75 cents higher respectively than whole box prices

fancy, " " ... in sacks, per B. .... " Suitanas, unbleached, in boacs, V h., bleached, " CANNED GRADES

Grapes, Muscat, 21,2 Re. 8 1 40 st 1 50, Galts, 4 50c W 3 R. tins 2 25 ; 2 45

Son Dried Grapee, Stemless, sks,..... 3 @ 31, Unstemmed, sks,

#### Sugar Quotations.

California Sugar Refinery price list dated January 30th; Circle A. Put Cube, 6 ,e Circle A Croshed, 63, e; Fine Crushed, 63, e Extra Powdered, 63.e; Dry Granulated, 63 6c; Confectioners' Circle A, 614e; Extra C, 51, e; Golden C, 47, e; Star Drips Syrup in bbls, 17%; hf do, 20c; 5-gall kegs 25c; I gall tins, 35c per gallon.

Price list of the American Sugar Refinery dated January 30th: Extra Fine Cobe, in bbls, 65sc; Cirela A, Crushed, 63,c; Fine Crushed, 63, c; Powdered, 62, c; Extra Fins Powdered, 7c; Dry Granulated, XX 61, c. Dry Granulated, 63,c; Confectioners' Cirele A, 6?4c; Extra C, 51,e; Golden C, 47,e, American Golden Syrup, in bbla, 20c per

Oargon contains 94,560 square miles; was settled in 1811 at Astoria, and was admitted into the Union Feb. 12, 1859.

Arkansas was settled in 1655 at Arkansas Post, admitted into the Union June 15, 1536. Its area is 53,045 miles.

Nebraska contains 76,155 square miles was settled in 1854 at Omaha; and was ad mitted into the Union March 1, 1867.

Louisiana contains 45,320 square miles; was settled in 1690 at Iberville, and was admitted into the Union April Jo, 1812.

Maine contains 29,895 square unles; was settled in 1635 at Bristol, and was admitted into the Union March 15, 1820.

Georgia contains 55,950 square miles was settled in 1723 at Savannah and was addmitted into the Union Jan, 2, 1788.

Illinois contains 56,000 aquare miles; was settled in 1720 at Kaskaskia, and was admitted into the Union Dec mber 3, 1818.

Maryland contains 9,530 square miles; was settled in 1721 at St. Mary's; and was admitted into the Union April 28, 1788.

THE MALAGA grape crop is short in the year just closed, a single storm having de-

#### WONDERS OF THE STERRAS

The priceless and numberless valuable articles discovered from time to time in the creat Sierra range of mountains of California, where, as we well know, mighty millions have been taken out, and there yet remain millions of undiscovered gold, for which mankind is day by day striving ever to grasp, also the forests of gigantic trees that traverse its entire length and breadth, its granite and other valuable building stone, and many articles of commercial value that time and man will bring to light, are in their way wonders the grandeur of which we can never fully realize. But the greatest and most wooderful of all the productions found in these mighty hills is the herb from which the Great Sierra Kidney & Liver Cure is manufactured; discovered by a traveler growing in ita simplicity, as a rose born to blush unseen, but thanks to intelligence and medical science it was rescued from its modest bed and has become a mighty power in the land, Science has produced from that same herb an article that as time rolls on will never die, for as mankind feels the thrilling effect of its wondrons cares he will forever praise his God for growing such an herb, and praise the fortunate traveler for his discovery. The Sierra Chemical Company have had immense success with their Great Sierra Kidney and Liver Cure. They have brought to light a purely vegetable article that is warranted, a sure cure for Bright's disease, diabetes, estarrh of the bladder, smarting pains in the small of the back, and all disorders of kidneys and liver, Warranted purely vegetable. For sale by all druggists. Sierra Chemical Co., office, 15 Post street, Sin Francisco, Cal.

The Question of taxation on grajebrandy has for years been a prolific source of discussion. It seems now to be in a fair way of settlement through the efforts of two western Senators, both of whom have the best interests of their constituents at heart, while one of them has an intimate acquaintance with the requirements of the grape-grower. In view of this it is nunecessary to dilate on the varied opinions which have from time to time been expressed on the subject. All that the wine men desire is to have their taxation on grape-braudy reduced to a rate which will offset the difference between the cost of their production and that from corn and other grain. A five cent tax will be fair to all, while at the same time it will keep distillation under government supervision.

## WHAT NEXT?

The Los Aogeles Herold says: It is pro posed to establish a Deer Park on a large scale in the hills of the San Vic ntev San's Moniea rancho of the Messrs, Jones and Baker. In the Sierras back of Santa Monica these gentlemen own some twenty thousand acres, which it is sought to enclose for this porpose. As this hill land lies now it is not productive affrevenue. Should it b enclosed however, the sale of permits to shoot game would doubtless result in some income to the owners. As it is, about sixty deer are annually shot in these hills. They abound in all kinds of game, which could be greatly increased by judicious regulations and many people would pay for the privilege of shooting it. We hope to see the project carried out.

KRUG CHARLES, Krug Station, St. Helena, Napa Co., Cal. Producer of fine Wines and Brandies.



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A CHOICE LOT OF

RIPARIA CUTTINGS.

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FSend for Circular.

E. P. HEALD, President]

C. S. HALEY Secretary.

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CUTI INGS \$5 per ThousandGRAPE ROOTS AT REASONABLE DATES.

M. DENICKE, - - FRESNO, CAL.

Packed Figs for sale at Tillman & Bendel, Clay and Battery Sts., S. F.

The following is taken from a letter written to Mr. Denicke, by John Rock the wellknown nurseryman and horticulturist of San Jose:

M. Denicke, Fresno: DEAR SIE-The figs sent to me to San Jose are very fine, and nothing has yet been produced in California to come any way near them. \* " Enclosed are orders for twelve additional cases.

Very truly, JOHN ROCK,

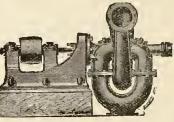
San Jose, January 7, 1889.

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FRUIT AND NUT TREES

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CRAPE VINES ---

RESISTANT GRALE VINE STOCK, (Very Fine);

Ornamental Trees, Olive Trees,

ORANGE TREES,

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TO NEW YORK-Pea ship Icebero, Jan. 20, 1889,

MARKE,	empras.	PACEAGES AND CONTENTS.	GALLONS	VALUE
Y Co	e Schilling & Co	31 puncheons Wine	5,298	\$2,11
C	C Carpy & Co	50 barrels Wine	2,353	11-1
М	4	10 barrels Wine	500	20
n w	S Lachman & Co	2 barrels Wine	300	
S & Co		3 barrels Win	1,045	613
D & Co		350 barrels Wine	345,975	6,73
L	Lachman & Jacobi	30 barrels Wine	1,195	- 5
B & J	**	750 barrels Wine)		
**	4.6	75 p incheons Wine [	18,535	19,4
& F		15ti barrels Wine	7,5(8)	3,0
4.0	4	50 barrels Wine	2,526	1,0
J II	Berringer Bros	50 barrels Wine	2,149	()
Bro4	J Schram		. 7:0j	
V 1'0	it schilling & Co	1ti puncheons Wine	2,151	51.
W & B Co	Sonoma W & B Co	Histo barrels Wine 1		
The Control of the Co	**	2 half barrels Wine	82,085	32,8
A S		S4 packages Brandy	2,3.7	-1,6
. 41	**	Lott packages Brandy	5,2000	10,5
41	1 4	300 packages Brandy	9,101	18,9
Total amount of Wine.		.,	173962	\$69,5
			17.054	34.1

## PER P M. S S. CO'S STE MER ACAPULCO, JAN. 23, 1889.

#### TO NEW YORK.

K & W         Kohler & Van Bergen, 2 barrels Wine         100         83           L G         C Sch lling & Co.         1 barrel Wine         449         3           A V Co.         2 cetaves Wine         44         2           W N O         C Carpy & Co.         1 balf puncheon Wine         61         10           C in dramond         4         2 cases Wine         2         2           K & F         Kohler & Frohling         160 barrels Wine         8,112         4,500           J M C         bo barrels Wine         2,478         74           B B         27 barrels Wine         1,338         40
A V Co.   2 octaves Winc.   4.1   2   2   2   2   2   2   2   2   2
W S O C Carpy & Co. 1 half panelteen Wine 61 100 C in distincted 2
C in dismond         4 cases Wine         2           K & F         K chler & Frohling         1 d0 barrels Wine         8,112         4,500           J M C         Lenormand bros         50 barrels Wine         2,478         74           B B         27 barrels Wine         1,338         40
K & P.         Köhler & Fröhlung.         1430 barrets Wine.         8,112         4,500           J M C.         Lenormand bros.         50 barrets Wine.         2,478         741           B B.         "27 barrets Wine.         1,338         40
J M C Lenormand bros
B B 1,838 40
C D K [Lachman & Jacobi 10 puncheons Win :
G F
GJ Gundlach & Colt barrels Wine
"   1 half-barrel Wine
G V S. Williams, Dimon I &Co I barrel Wine. 51 5
Total amount of Wine, 1 cases and

#### TO CENTRAL AMERICA.

II J. Corinto	J Gundlach & Co	2 half-barrels Wine	53	840
11		1 ke; Wine		
G S, Puntas Arenas	E Kemen & Co	I half barrels Wine	111	91
F F. Puntus Arenas	11	5 barrels Winc	250	194
J R R T. Puntas Arenas	4.0	10 half barrels Wine	277	180
JH, La Union	Cal Transfer Co	3 barrels Wine	150	100
		11 half barrels Wine	363 (	
		27 kegs Wine	170 (	420
F V, Corinto	**	kegs Wine	97	100
C F & H, Puntas Arenas	11	10 half-barrels Wine	277	250
F F, Puntas Acenas	4.1	I half-barrels Wine	100	105
M C S & Co. Puntas Archas	**	15 kegs Winc	Tōu	115
S & S. Champerico	Schwartz Bo is	20 cases Wine		865
		2 barrels Wine	(20)	65
		2 kegs Wine	20,	17
	***	2 half-barrels Wine	51	20
S R. Acajutla	11	5 kegs Wine	25	24
LA, Coribto	11	40 cases Wine		160
A R. Corinto		I keg Wine	16	10
B R, A ajutla	11	G kegs Wine	60	39
1.	**			75
Z & H, Amapala	**	5 cases Wine		GO
M N & Co. Cori ito	Stockton Milling Co !	3 kegs Wine	1501	55
J A L. Amapala	F Meeks	14 kegs Wine	55	34
B D & Co. La Libertad			59	24
Total amount of Wine, 8	cases and		2,407	\$2,316

## TO MEXICO,

A A L A D & O	E Kemas & Co	ti octaves Wine 25 cases Wine	 102	\$60 77

## MISCELLANEOUS SHIPMENTS.

OBSTINATION.	N ESSF L	RID.	OALLONS.	VALUE.	
China Japan Central America Britaritari Victoria	Zealandia City of Peking Neptune Jennic Walker Umatilia J N Ingalls	Steamer Steamer Schooner Schooner	6 535 1,712 190 193	1,520 190 127	
Total			5,331	84,605	
Total shipments by Panama steamers.   20,126 gallons   \$10,225     Total Muscellaneous shipments.   179,293   24,189					

## FANCHER CREEK NURSERY, FRESNO, CAL,

OFFERS AN IMMENSE STOCK OF

Grand totals ...... 190,419

## Fruit Trees, Grapevines and Ornamental Trees, SPECIALTIES:

White Adriatic Fig. Ten Tested Varieties of Table Figs, Olives Pomegranates, and also a Fine Collection of Palms, Roses and Oleanders.

17 A five-pound box of White Adriatic Figs sent by express to any address on receipt of \$1.50. Send for Fall Catalogue and address all letters to

F. ROEOING, PROPRIETOR, FRESNO, CAL.

SAN FRANCISCO SAVINGS UNION, 532 California street, e stner Webb.

For the ball year ending with 31st of December, 1888, a dividend has been dec'ared at the rate of five (5) per cent per annum on term deposits, and four and one-sixth (4 1-6) per cent per annum on ordinary deposits, free of taxes, payable on and after Wednesday, January 2, 1889.

LOVELL WHITE, Cashier.

## the German Savings and Loan Society 526 California Street.

DIVIDEND NOTICE.

For the half-year ending December 31, 1888, a dividend has been declared at the rate of five and one-tenth (51-10) per cent per annum on Term Deposits, and four aid one fourth (43) per cent per annum on Ordinary Deposits. Payable on and after WEDNESDAY, Johnson GEO, TOURNY, Secretary.

# Description of the Blueberry.

The Blueberry is a valuable fruit, and is a reliable fruit to grow in our northern States where the more tender varieties of fruits winter-kill. It is perfectly hardy, having stood 40 degrees below zero without showing my injuly to the most tender buds. It ripens in this latitude about the 1st of July, and is borne in clusters like currants; shape, round; reddish purple at first, but becomes a bluish black when fully ripened. The flavor is equal to the raspberry, a very mild, rich sub-acid, pronounced by most people delicious. It may be served with sugar and cream or cooked sance, and is splendid for winter use. The plant seems to flourish in all soils, and is a prolific bearer. It grows very stocky and makes a nice hedge. The shinning dark green leaves and tho blue froit making a pleasing contrast. The demand for the fruit is great, and usually brings 15 cents per quart. They commence bearing the first year after setting out, and yields a full crop the second and third year after setting out. They are propagated from suckers and root enttings. The plant is about the height and size of the currant bush, and very stocky, holding the fruit well up from the ground. Plants should be set in the fall and spring, in rows two or three feet apart, and five or six feet between the rows, making a perfect hedge, and no grass or weeds should be allowed to grow between rows.

## PRICE LIST:

1 Dozen Plants by mail, 60 cents. 2 Dozen Plants by mail, \$1.00

100 Plants by Express, \$2.50 1,000 Plants by ex. or freight \$15.00

How To SEND MONEY:—I would prefer to have money sent by Americau Express order, all sums of \$5 00 and under, cost only 5 cents, and if order is lost, money will be promptly refunded to sender. If not convenient to obtain express order, money can be sent by registered letter or post office money order or postal note, drawn on Portland, Mich. Postage stamps will not be accepted only from our customers that cannot obtain an express order—only those of one cent denomination wanted.

Plants are carefully packed in damp moss and delivered to express or freight office, for which I make no extra charge. Address

DELOS STAPLES, Portland, Ionia Co., Mich.

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WAREHOUSES: Cor. Eighth and Brannan St-

CAPACIFY: 5,000,000 Gallons



Wines treated under the Fraser Electro Magnetic Process, developing New Wines in thirty days, equal to three year's maturing under the old system

R. J. HARRISON, President.

INCORPORATED ISSA.

160 ACHES

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Fruit Trees, Olives, Oranges and Lemons, Nut Trees, Wine and Table Grapes, Berry Plants, Shade Trees, Evergreens, Shrubs, Reses, Etc., Etc., Etc.,

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SAN FRANCISCO, CAL.

#### CHEAP WINE

To the Editor of the London Times - Sir. In the discussions rife upon the subject of " Temperance versus Total Abstinence," account does not seem to be taken of the enormously increased production of wine, nor of the visible improvement of its quality as a factor in the case.

The misfortunes of viticulture in France and the other old-fashioned wine-growing countries stimulated the cultivation and utilization of the vine all over the world, while competition in steam transport has facilitated the cheapest possible importation of what are termed "unenumerated wines," Wines hitherto unknown to us find their way from hitherto inaccessible vineyards by modern railways to the sea, and thus reach us at a cheaper rate than from London to Liverpool.

We now get good wine from Cape of Good Hope, Australia, California and even from New Z aland, while Italy is absolutely overflowing with it,

Practically the public share very little in the benefit that should come from such a state of supply.

As President of the jury upon the wines at the late Italian Exhibition, I had the survey of some 800 varieties, and have no hesitation in recording my belief that Italy slone could furnish and maintain us with pleuty of good wine at a ridiculously low figure.

In proof of this view of the situation, let me any the distributor - the publican to wit-may now supply the public with good, henest, palatable wines in bottles of six to the gallon (usual size) at 9d per bottle and make 20 per cent profit for himself; while, if he will condescend to dispense it in glasses for 1d per glass, he can fairly make 45 per cent profit for his expenses, trouble and risk.

Nothing but the silliest short-signted prejudices prevent this being done. Wines of this class can, of course, be imported, thanks to the recent treaty with Spain, at the schilling per gallon duty, being necessurily-as natural wine-under the limit of 30° proof spirit.

One pennyworth of wine taken with two parts of water will furnish the consumer with a "long drink," containing even then as much alcoholic force as beer-falsely called the "national beverage," I state my name and am prepared to stake my reputation that this can be all easily, profitably and well done in the manner indicated. I have practically and profitably acen the experiment tried. There are many delicate workers (for the working classes are not all navvies) who cannot, who must not, drink beer, but who, all the same, require stimulant, and who, whether they do or not, will have it; and it is better they should have pure wine than ardent spirits, especially the spirits placed within reach by the retailers. Let coffee-taverns continue to have their chance, honestly competing with the public house, but let wine which is cheap and good have a chance also, and if those who interest themselves so philanthropically in the welfare of the poor, will teach them to drink wine and water, they will, I feel sure, add to their comfort, health and enjoyment; and they will, perhaps a little unexpectedly, find they are on the road to insure true temper-Yours faithfully,

WM. HEDSON.

Expert and Valuer.

#### CALIFORNIA.

#### What the Youngest Apprentice linds to Say About II.

The climate of California has, of late years, been often discussed by many people all over the universe; and the question is often asked what kind of climate will be find here on his arrival?

To this question we would say, let him come and judge for himself; so he will find it just as we recommend it to be. We will let him start from New York, or any other eastern city, with the ground covered with snow and the wind blowing like a hurricane, and on his arrival in this State, if he don't find the hills and valleys covered with green grass, and vegetation on all sides, why, we will sell out and go back east with him.

By the above lines, which are quite true, you will see that while the eastern States are wrapped in snow and sleet, California is enjoying a warm and balmy climate, that covers her hills with green trees and vines, and fills her gardens with flowers and plants.

The tourist, home or health-seeker coming to this wonderful clime, also has his choice of location, whether by the seaside, where he may dwell near its sandy shore, and hathe and sport in its salty boson, which is ever healthful to the sick and dehilitated, and fun and sport for the lover of aquatic sports. If he prefers rural life he can locate his home up in the foot-hills near the mountains, where he can ramble through its leafy forest, and hunt and fish through the long summer days to his heart's content. While passing his bright and sunny hours up in these grand heights he has all the luxuries and dainties nature can provide. He breathes the pure and invigorating atmosphere, and drinks from clear and sparkling streams.

To the over-worked and fatigued, I would advise him to spend his vacation at the springs, which are renowned the world over for their peculiar waters and health-restoring powers. These springs are quite numerous in California, and are much of a enriosity, as their water is different from that of fresh or salt water; it comes spouting and boiling from away far down in the depths of the earth. The water has been tested and found to contain sulphate, alkali, iron, and other ingredients, according to the locality.

These are but a few of the many gifts that California presents to the humble emigrant and tired and worn-out traveler who may travel the earth from end to end and yet he woold not find a spot so welcome, so ready to receive him as the "Golden State ??

After the emigrant has made his selection, and settled down to improve and build up his little home he will find the soil, weather and water all in his favor, and all he has to do is to perform his work well and see that there is nothing lacking, and in a few years his little home will develop into a beautiful and goodly farm, which will produce him an abundance of all kinds of cereals, and fruits of all descriptions.

Here, in this State, you never hear the poorer class complaining of the cold, which is so enstomary among the poor and thinlydressed people of the castern and northwestern States; nor is the cost of fuel so

the climate of California; it is always mild and pleasant the year round, and I think that this climate is good enough for any two-legged crank, and yet if the day happens to be a little rainy or foggy, you will hear him complaining and grumbling about the disagreeable weather. When hearing him complain I can hardly refrain from pitying him, as I think of the snow storms and cyclones we used to experience back in the eastern States. With the thermometer below zero, and wood far above the average price, it was enough to make one think of other climes where the snow never came, but the sun from his distant height gently smiles down on the green and supny land. When I reflect over those many hard winters I have passed through, it fairly makes me shiver as I lie tucked cosily in my little I mak."

This state is open to all comers that are willing to work and help the industries in their march to victory-yes, victory, for it will be but a few years until this State will be the home of the olive and the region of the vine, and will defy all competitors in the excellence of her win s and fruits. So come, you people of the cold and wintry climates, and drink in our joy, you are all invited, as there is room enough for all-"ABCHIE."

## THE SEASON'S PRUIT PRODUCT.

Last season the Fruit Union shipped East 850 cars of fresh fruit -90 more than during the 1857 season. Regarding the season's fruit produce generally the Rural Press says: The number of bearing trees last year is placed at about 12,000,000. That this is none too large is attested in the heavy shipments of green fruits to the East, the large quantity dried, and also the large quantity canned. The Southern Pacific Company handled altogether 2,184 carloads, or 1,616,160 packages of fruit, aggregating a total of 43,681,180 pounds, on which were paid freight charges of \$810,840. If a total of 50 carloads be estimated as the amount handled by the Atchison, Topeka and Santa Fé out of the State and as many more by steamer-the actual figures in either case not being obtainable-there would be eltogether fully 45,000,000 pounds as representing the total green deciduous fruit exported from California, or at least 10,000,000 pounds more than the previous year. Last season the expense of packing grapes was heavy, equal to about one cent a pound, owing to the poor condition of much of the fruit, each banch having to be handled and the poor and sunburned fruit having to be trimmed out. With a good crop in the coming season it is confidently hoped by the shippers that fully 60,000,000 pounds of green fruits can be sent to the East this year. The New York shipments will be much heavier, as good returns are realized there and there is a very active demand at all times for California fruits. The orange crop of last season reached very nearly 1,000,000 boxes. It is estimated that the total orange crop of the present season will be 1,200,000 boxes, of which about onethird will go for home consumption.

## GROWING TORACCO IN CALIFORNIA

A correspondent of the Redlands Cito-The writer of this article was talking to a young man, who was recently from one of the castern States, of which I quote the following: "I have been here just about a

year, and the longer I stay the better I like Company manufactured cigars that took the bighest premium at the cast, failure, he says, resulted through losses by fire, and the stockholders not being practical men abandoned the ent rprise. He adds:

I am prepared to impart practical instruction in every department from the preparation of the seed beds; the proper preparation of the ground for trans, lanting, cultivation to the time of cutting, and the proper mode of curing in all its det cils. No two sections of California ere of the same temperature, having the same amount of moisture, There are dew helts and thermal belts. I'. on the soil differs in each locality. These differences require treatment adapted to the peculiar condition. If a man will give me the character of the soil, the temperature from April to November, the general trend of the wind, the exposure, the character of the water in the section, I will tell him just what he can depend upon and what the product will be.

## ALJEN LAND SHARKS,

The following list purports to show the amount of public lands in the United States now being own d and held by foreign syndicates and proprietors:

English Syndicate, No. 1 (In Texas).... English Syn Haste, No. 3 (In Texas .... Sir Edward Reid, n. C. 11, (in Floridal ... English Syndicate, headed by S. Philipotts C. R. L. & 'co, of London, etc. Phillips, Marshall & Co., of London. Phillips, Marshall & Co., of London German Syndicate, etc. Angle-Am facut Syndicate, etc. An English Company (in Mi sissupi) fulke of Sutherland...
British Land and Mortrage Company Capt. Whalley, M. P., England...
Missouri Lami Company, Scotland Hon, Robi, Tennant, London...
Scotch Land Company, Scotland...
Lord Danuoro Benjania Newgas, Liverpool...
Lord Hongiston... English Lant Company (Florida).

English Capitalist (Arkansas).

An English Capitalist (Arkansas).

Albert Feel, M. P., England.

Sir John Leater Kaye (England).

Geo, Grant of London (in Kan as).

An English Syndicate, represented by Closs Bros. (Wisconsin)...

A Scotch Company (in California)...

M. Elierhauser, N. 3 (in W. Vis.).

A. Noctch Syndicate (in Florida)...

A. Boyesen, Danish Consul at Milwange. 50,000 100,000 110,000 140,000 600,000 500,000 40,000 Missouri Land and S. S. Co., of Scotland English Syndicate (in Florida).... 50,000

20 541 666

## PAVORED GRAPE REGIONS.

Bulletin No. 7 of the United States Department of Agriculture, on the subject of grapes says: " Black rot occurs throughout the United States, east of the Rocky mountains, on all wild and cultivated vines; black rot is the most serious and important disease of the vine in the United States; European vines are more subject to black ret than American; all points in the United States where the ravoges of black rot are most severe, the summers are very warm and moist. This is the case especially in New Jersey, Maryland, Virginia and the Carolinas. In Western New York there are quite extensive vineyards. At this point, in consequence of the altitude and exposure, dews and mists are rare, and black rot causes but little damage."

Exemption from this great scourge of American grape growers', is curely a cause of gratitude and general congratulation among the vineyardists of our favored Western New York region. Long may it be absent from the take shores and vine clad hills of Kenka, Seneca and Canan-

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JANUARY 1,	1875:\$	300,000	\$ 747,488 45
JANUARY 1,	1880	750,000	1,160,017 00
JANUARY 1,	1888	1,000,000	2,181,925 18

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B. FAYMONVILLE, Asst. Secretary.

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5000 Mission Olive Trees, Grown from Hard-wood Cuttings, in open ground, one to two, and two to four feet high.

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The undersigned beg to call the attention of Wine Makers, Dealers, etc., to the superior merits of Chevallier-Appert's

# "OENOTANNIN."

as a corrective and a purifier to all light Table Wines, White and Red.

Its merits are best stated as follows:

Its merits are best stated as follows:

I. Being used at the time of crushing the grapes into must:

It regulates and secures the perfect fermentation of the must into wine.

It combines with the ferments, mycodermes and alhuminoids, etc., and precipitates all impurities, msoluble, into the lees.

It concentrates and diminishes the lees, leaving a larger quantity of pure wine.

The wine being freed of all distorbing elements, it promotes its perfect develop-

elements, it promotes its perfect develop-ment of color and bouquet, of natural strength and aroma.

II. Being used on fermented wines before the second Clarifi-

cation: It calms and regulates the second fermentation of young wines.

It restores the natural tannin of the wines which may have been lost or impaired by imperfect fermentation or treatment.

It strengthens and developes their natural color and aroma, preparing and assisting them for thorough clarification, promoting their development and improvement in quality and aroma, and ripening them for earlier delivery.

When ordering state whether for Red or White Wines.

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The Pulverine is a Clarifying The Pulverine is a Clarifying Powder, which is greatly appreciated abroad, for its sure and instancous action on both White and Red Wines. It has neither taste nor smell, and can be used in perfect safety, for it will not affect the wine in any way—never imparts a disagreeable flavor, as is often the case when other clarifiers are used, such as eggs, etc. With Pulverine success is certain, and oth Pulverine success is certain, and oth time and money are saved; and kept perfectly dry, it retains its quality for any length

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Treatise on the making, maturing an keeping of Claret wines, by the Viscount Villa Maior. Transated by Rev. John J. Bleasdde, D. D., organic analyst, motologist, etc.

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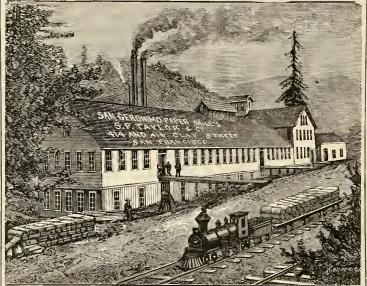
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7.30 A	For Haywards, Niles, and   San Jose,	*12.45 P
7.80 A	San Jose	7.15 P
8.00 A	[ L sa and Canstoga [	6.15 P
9,00 A	Marysville and Red Bluff.	5.45 P
8,30 A	Los Angeles Express, for Fresno, Santa Barbara and Los Angeles	11.15 A
10 30 A		. 2.13 P
*12.06 M	For Haywards and Niles	* 8.45 F
1.00 r	Sacramento River Steamers	** G. O A
		" 0.1 O A
† 2.00 r	Golden Gate Special, for	∥ 9.45 P
3.00 •	For Haywards, Niles, and }.	9,45 ▲
3.00 г	Central Atlantic Express,   for Ogden and East	11.45 A
4.00 P	(For Stockton and &Milton)	10.15 A
4.30 P	For Sacramento, and for \ Knight's Landing via Davis	9.45 ▲
* 4.30 P	For Niles, San Jose and }	* 8.45 A
5.30 p	For Haywards and Niles	7.45 A
7.00 P	1 C	7.45 ▲
9,00 г	Sunset Route, Atlantic Ex- press, for Santa Barbara, Los Angeles, Deming, El Paso, New Orleans, and East	8,45 P
SOU	TH PACIFIC COAST RAILWAY DIVIS	ION.
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## SAN FRANCISCO, FEBRUARY 15, 1889.

PRICE 15 CENTS

## ITALIAN VITICULTURE.

CULTIVATION AND PRODUCTION OF THE VINE, WITH CHARACTER. ISTICS OF WINES.

An Interesting Account of the Wine Industry, furnished by the General Italian Wine Growers' Association.

[Continued from page 146.]

SOUTH MEDITERRANEAN.

The southern portion of the l'eninsula bordering on the Tyrrhenian sea, constitates the touth agricultural section of the kingdom, and includes the provinces of Caserta, Naples, Beuevento, Avelliuo, Salerno, Pot nza, Basilicata, Cosenza, Catauzaro, and Reggio, the last three forming Calabria.

While Puglia is distinguished for the conceutration of i.s calture, and especially in the districts around Bartetta, this tenth region is, on the contrary, characterised by the wide diffusion of wine culture throughout its whole extent, from the Abruzzi to the extremity of Calabria. But in no district is the vine coltivated so exclusively as to give a surplus of three or four hundred thousand h ctolitres of wine for exportation, as is the case in Puglia and the Abrazzi, and in many districts in Sicily,

This region is very mountainous, with a large numb.r of valleys and slopes, having a variable rainfall, but on an average more abundant than in Puglia It therefore possesses various conditions for production We must also add that the culture extends from the sea coast to the semmits of the Appenines, which parely touch 1,000 metres in altitude, and consequently a great variety of wines are here produced.

Amougst the varieties of common wines which are produced and consumed locally. although slightly different in character, there are some which, from very ancient times, have been greatly renowned. It will be sufficient to mention of these Falerno; and there are to-day still excellent qualities which are well known to Italian and foreign consamers, such as the wines produced near Mount Vesuvius, and those of the Islands of Capri, Ischia, &c.

Taking a rapid review, the wines pro-

Caserta, Naples, and Salerno, are the first. Il re the great fertility of the soil is priacipally ntilized by the cultivation of cereals, vegetables, and other herbaceous crops. The vine here is considered a second class culture, and is generally associated with trees, and it sometimes develops itself to such a height as to have no equal in any other portion of the Peninsula, or in any other country. The inhabitants of the district are content to cultivate the vine for the mere purpose of providing them with a sofficiently cheap and stimulating beverage. The great bulk of these wines are of course cousamed locally. In a few very exceptional cases, however, they are exported to other provinces, but only in small quantities.

To-day, much more than ever, the light wines of these districts are mixed with the stronger qualities of Puglia, Calabria, and

Ouly in years of exceptional abundance, are the wives exported from this district in anything like large quantities, and at very low prices, and then they are generally sent to France, but as they contain only a very small quantity of alcohol, sometimes only 5 to 7 per cent., they are used solely for the fabrication of chean table wines.

There are, however, in these provinces several valleys and hills where wines of superior value are produced, but their quantity is small.

The old Falerno and Formiano, and many other fine wines were produced in Campania Felix, and especially in the district at present known as Gaeta; but from the evidence of the old writers, who record that these wines, mixed with ice water, were drunk at table, it seems they were very different from the table wines consumed to-day. The grapes were allowed to remain on the vines outil late in autumn, and gathered when dead ripe, the juice of the grapes being consequently very rich, as is done to-day for making Tokay, Chateau Yquem, and some Italian wines called Forzati. These wines were kept a very long time; occasionally, in the best old Roman familes, for a hundred years, and according to the place and year of production differed greatly in style. The most Inscious and syruppy, notwithstanding the high temperature to which they were submitted, remained very sweet and sometimes assumed a honey-like davor, All were rich attong wines, possessing a duced on the plains of the provinces, high degree of alcoholic strength, but vary- and uniform.

ing, of course, according to the quantity of sugar which remained free.

is not recorded by the arcient writers; but been made, it must be presumed that the proportionate large-first, because of the nature of the products and of the cellars in which they fertility of which was proverbial. were kept, and secondly, because of the practice which has been handed down by them to the present time of adding concen- entirely unpopulated, with the exception of trated must, salt, &c., which was naturally that part nearest to Reggio. It is therefore done for their better preservation.

was produced are to-day almost uninhabit- localities widely different from those which ed, and surrounded by malarious districts. Neither this nor many other old wines can be easily produced now; but there is no need for them, as all which are appreciated to any extent have been well reproduced wine culture in Calabria, according to what by some Neapolitan establishments, as for instance, Ginseppe Scala, Pasquale Scala, received from those districts we did not J. Rouff, &c. Returning to the wines of visif, is the partial character of the cultivathe three provinces of Caserta, Naples, and tion. The visitor, after passing through Salerno, it is still customary to concentrate miles and miles of country without accing by fire, a portion of the must. With regard any vines whatever, suddenly comes upon to the quantities produced, it must be said that if these provinces sometimes export wines, the quantity imported for home ture with fig and olive trees, but wherever consumption is very much larger. However, Salerno, hesides Naples, begins to sive area. It may be said that every district supply the wholesale trade with considera- and almost every commune has a certain ble quantities.

The isles of Capri and Ischia, the districts surrounding Mount Vesnvius and ago, was made in proportion to the con-Pozzneli, can produce spleadid wines for exportation.

The provinces of Avellino and Potenza (Basilicata) produce a good quantity of table wines, and in a few localities also parts of the kingdom, the vineyards, in mixing and blending wines. The Rionero, Basile, and Tauraso are well known wines. They are produced partially from the fruit created, the wines being conveyed by small of vines associated in their culture with ships to Messina and Naples, or seut by tree, and partially from vines cultivated rail to the North of Italy. exclusively, which system is extending, especially in that portion of the province nearest Puglia. These two provinces produce more than they consume, and for of Ciro, Sambiase, Palmi, Campo, &c., also some years past have sold the surplus in the Neapolitan and Venetian markets. In the province of Benevento more white wines are produced than in the two last named but it exports only a small quantity, al-though, from what we have been able to ascert in, the prices are generally moderate

We have been able to obtain very little information with regard to the composition How many were the arns, amphoras, and of the wines of these provinces, as they doliums in which the wines kept well, and have very rarely been brought to exhibihow many on the contrary turned the wines, tions, and very few analyses of them have

The three provinces forming Calabria, quantity of wine which went bad was very represent a special feature. Calabria is the Magaa Grecia of ancient times, the

In olden times the flat country was thickly populated, but to-day it is malarious and very probable that the greater part of the The localities in which the old Falerno of the wines now produced there came from supplied the wines which ministered to the pleasures of Sybaris and the other famous cities of Greek origin on the Ionian coast,

> The most striking feature of the present we have noted de visu and the information a large district with extensive vineyards. Sometimes the vine is associated in its culvineyards occur they extend over an extengroup of vineyards, carefully kept. The extension of the vine culture some years sumption of each little district; but after finding a means of conveying the products to the coast and the introduction of railways, which unite these provinces to other those localities most favored by nature, became so extensive that a regular export was

The localities which have the largest surplus of pine, are the two districts of Castrovillari and Russano; the communes export a considerable quantity of valuable winea.

The wines of Calabria, considered as a whole, are the strongest of the Penninsula In this region, light wines are rarer and less known than in any other. There may be frequently found here, blending wines of a class which could only be equaled by a few vineyards near Barletta; and if the demand of the northern provinces is greater for the wines of Puglia than for these, it must not be attributed to a superiority in quality, but to the large production of that province.

Besides blending wines, Calabria, especinlly at considerable altitudes, produces Red Table wines, which develop of themselves in the first year a bouquet equal to that which in other provinces require a long time and great care to attain. The Special Wines, dry or sweet, also produced in Calabria, possess such strength, aroma, and bouquet, as to prove that the favorable conditions of the climate and soil ought to be largely utilized for producing this class of wines. The sweet wines of Gerace have already gained a sound reputation, Calabria also prepares a large quantity of dry raisins (called in the country Zibibbo), which are exported in bulk, or neatly packed in elegant boxes, to Naples; this proves still more how well Calabria is by nature adapted to supply sweet and special wines.

If Calabria is not appreciated by the wine trade to the extent its merits deserve, it is because the enterprise and the initiative spirit of the people is not very great, and the large wine merchants prefer to go where the largest emporia are to be found, and the transport of goods is easiest. As to the chemical composition of the wines of this region, it must be said that these of the plains around Caserta, Naples, and Salerno, range from the lowest degree of alcoholic strength to Il per cent; their scidity is generally very moderate; the wines are naturally light and dry, but, with the addition of concentrated must, rather sweet wines with a large body may frequently be found.

The wines of Pozzueli generally possess from 11 to 13 per cent. of alcohel.

With regard to the Special Wines of the neighborhood of Naples, twenty analyses of Lacrima Christi gave the average alcoholic strength as 14 to 25 per cent., acidity 7.57 per mille, and dry residue 31.9 per mille. The Falerno of the present time contains a moderate quantity of alcohol and preserves always the characteristic of a very dry wine; Capri possesses an average of 13.4 per cent, of alcohol, 6.5 per mille acidity, and from 25 to 28 per mille dry

What is known as Vesuvio is similar to Capri. The Moscati and Malvasie contain from 121/2 to 15 per cent. of alcohol, from 71/2 to eight per mille of acidity, and from 31 to 40, 50, and 60 per mille of dry residue, according to the year and the quantity of free augar present. Very few analyses have been made of the wines of other districts in this province; those which we have obtained are given in the following figures: Red Table Wines usually contain from 10 to 121/2 per cent. of sleohol, but in Calabria it is very rarely we find wines with an alcoholic strength inferior to 111/2 per cent.; more frequently they show 13 or 14 per cent., while the blending qualities possess as much as 15 per cent. They are always moderate in acidity, and contain large quantities of dry residue.

The temperature during the vintage being rather high, and the winter mild, the special wines of Calabria decompose in the first month sufficient sugar to quickly make them very alcoholic and easy to keep. For this reason, and also because of the steady supply of wines of a certain style, without wasting the grapes, as is the case in the table wines.

northern countries, Calabria is able much better than any other region previously described, to supply agreeable special wines, which quickly develop their bouquet, at low

Another peculiarity, which is also common to Sicily, is the very rapid fermentation which the black grape juice undergoes, as is also the case when it is desired to obtain wine of a very dense color, fit for blending purposes.

Going from north to south of the kingdom, we observe that the grapes improve in color as we proceed. As a consequence of this, grapes containing the same quantity of color, with only 24 hours fermentation, will give in Calabria a wine much more intense in color than could be obtained from the same in Puglia, Castelli Remani, or in Picdmont, with 3, 15, and 20 days' fermentation respectively.

The average production of wine in the nine provinces of this region, is estimated as follows:-

	Hectolitres
Caserta	380,800
Naples	624.300
Salergo	. 790,400
Benevento	124.500
Avel ino	776800
I'otenza	686.600
Cose nza	823 300
Catanzaro	188 100
Reggio Calabro	299 500

1	Total average for Southern Mediterraneau 4,645,30	Din.
	The comparison of this production wi	rh.
	the population of each district is given b	
	_	e-
	low:-	
	Average Districts, production p	
	Inhabitant.	101
	Litro	8.
	Caserta	
ı	Nola	52 12
ı	Piedimonte d'Alife	79
ı	Sora	15
ı	Average for the Province of Caserta	53
ı	Cosonia	10
I	Castellamare di Stabbia	51
1	Naples1	15
ı		
ı	Average for the Province of Naples 6	
1	Campagna. 19 Sala Consilina. 9	7
l	Salerno	)9 L1
l	Salerno	4
İ	Average for the Province of Salerno14	_
Ì	Benevento	
l	Cerreto Sannita 3	s
l	Cerreto Sannita	9
l	Average for the Province of Benevento 5	-
ŀ	Ariano di Puglia	
l	Avellino	3
l	Avellino	5
l	Average for the Province of Avellino 19	-
l		,
	Lagonegro	8
ŧ.	Melfi	si
l	Potenza11	4
	Average for the Province of Potenza 12	ī
1	Castrovillari	- 1
п	Cosegra 8	3 I
ı	Paola 17	u {
	Rossano	1
	Average for the Province of Cosenza18	2
1	Catanzaro 4	8
K	Cotrone	1
	Monteleone di Cal	9
ĺ		- 1
	Average for the Province of Catanzera18:	2
-	Gerace 68	5
1	Palme	2
		_ )
	Average for the Province of Reggio Cal 86	5
	Total average for the Southern Mediterranean	
	Posico	VI.

The following are the names of a few of the important establishments which export their wines to foreign countries:-

sparkling wines.

Marquia Latiano, Mercato S. Severino, red table wines.

Barra & Solimene, Avellino.

Societa Enologica Avellinese, Avellino, red table wines.

Ing, Lnigi Pircagso, Prato d'Avellino, red

Societa de Nupoli, Lanzara & Co., Sa-

Antonia Ippolito, Acquaia, (Salerno), table and blending wines.

De Boois Bros., Pietragalla (Basilicata). Giscobioi Bros., Altamonte (Calabria), various wines.

Renda Bros , Sambiase, blending wines. Coscina Gerelamo, Nicastro, blending wines,

Marabito Bros., Mongiane (Calabria),

Cav. Nunziante, Ferdinando di Reggio, blending wines.

Genovese Zerbi, Palmi.

The principal establishments in Naples which produce and sell Table and Special wines are:-

J. Rouff, Ginseppe Scala, Pasquale Scala. In Torre pel Greco:-

Giovanni Attanasio, Turese & Vitiello.

[ To be continued. ]

## COTTON SEED.

The cetton seed which of late years hs been put to such profitable uses is steadily increasing in popularity, says the Commer cial Bulletin. Heretofore the seed after be ing taken from the cotton holl was throw sway, but new it is about all put to use anreadily sold. From this valuable seed i extracted the much used cotton seed oil, and from the residuum are obtained cotton and meal, cotton seed bran, and cutton seed hull ashes. The seed after being taken from the cotton gin goes through a "linter machine," which takes off the short staple cottor which the gin does not remove. This short staple cetten is sold mostly to cencerns who use it for cetton batting. It is also used for other purposes. After all the fibre is taken off, the bare seed is cracked and the kernel is separated from the hull. The kernel is then ground and put under severe heat or cooked. In the heated state the most oil can be extracted, and it is therefere put into a large iron caldron and is subjected to a heavy pressure. thoroughly pressed, the residue or meal is in the form of cake. Cotton seed oil is used for numerous purposes, and it is dis placing other popular oils, owing to its cheapness and healthfulness, as it is purely a vegetable eit. This variety of oil is used largely by lard manufacturers, who adulterate their lard with it.

Although most people would prefer pure lard, it is claimed that the cotton seed oil adulterated with the hog fat lard improves the quality of the stock. The hog lard contains more than twice as much water as the seed extract, and consequently one pound of adulterated cotton seed pil goes much further than the pure stock. Large quantities of the seed oil are yearly shipped from this country to the countries on the Mediterranean, where olive oil is produced. It is used almost wholly there to adulterate the olive oil, which is then sold both in this country and in Europe, as olive nil Region...... 100 from the Mediterranean countries. Most of the sardines are now packed in this new oil, and it proves to be successful. Bakers also buy barrels of the liquid, which they Viscochi Bros., Atina, red table and advantageously use in substitution for the more costly lards and greases. Chemists and druggists use considerable also. The white or refined stock is used to quite an extent in the Pennsylvania coal mines for lamp oil. Although the cost is much higher than petroleum, the safety of the variety is preferable to the more explosive kerosene. The crude stock is used extensively not clumsy and does not clog in action."

in the manufacture of soap, as is also the foots or residue left after the eil is made. As above stated, after the oil has been abstracted from the kerne!, the caked meal is left as a residue. About 150 mills which ntilize the cotton seed, use both products, the oil and residue or meal. Most of the residue is sent to England in cake form, where the farmers crack it and feed their cattle with it. A large amount has been satisfactorily used in the West, and now it is being sold in this market, it is claimed, quite successfully. This meal is claimed to excel all others as feed for cattle. That used in this country is not in the cake form, but ground, and now brings from \$26 to \$26.50 per ton. Last year the prices ranged from \$23.50 to \$24 per ton, the advance being caused b, an unprecedented foreign lemand. Cotton seed meal is not only claim d to be b tter, but also cheaper than oth r meals. In St. Louis there is situated mill which mak s cotton seed Irm from he hulls, and claims that it is superior to other course feed, and costs much less, oringing about \$21 50 per ten. Most of the pills burn the halls of the seed for full and sell it for fertilizing purposes. These ash a re bought by fana is in conjunction with he meal and mixed by them for fertilizer. This mixture is said to contain an abandence of potash and phosphoric acid, whi h aave very powerful fertilizing properties. The ashes are worth from \$3J to \$32 per ton. This fertilizer is not exported, but used here in this country, mostly in the Jonnecticut valley, by the raisers of tobacco. The supply is limited, and dealers say hey could have sold twice as much if they had it.

## AN IMMENSE ENTERPRISE.

The Agricultural Committee of the California Fruit and Wine Land Company held a session this week at the farm and gave orders to the superintendent to engage a large force of teams and men immediately in addition to the force new at work, and the work of plowing, scraping, leveling and planting this season will now begin in earnest. The olive trees, about 3000 in number to be planted on the knell, on which the Superintendent's house stands, have arrived and will be immediately set out. The two immense rams, for furnishing the knoll and reservoirs with water, have been put into position. The acreage devoted to raisingrapes and oranges will be largely increased the next few months. The orange trees already set out are doing well and are grow. ing even in winter. The company is much encouraged with its success so far and will increase the size of its orange orchard and raisin vineyard as rapidy as possible. It has both the confidence and capital to show what this section of country can do at fruit raising.

PULL DOWN THE BLINDS-An ingenious device for controlling excitable horses has been invented, says the Indiana Farmer. It is attached to the brow-band of the bridle and a light but firm cord runs through loops along the reins to the hand piece. "In case of a fright pull the cord, and instantly the horse is blindfolded. This diverts his attention from the object of fright and puts him into another train of thought Let go the cord and the double spring instantly withdraws the blinds from the eyes and rolls them out of sight. This device is

#### THE OLIVE

#### Some Theoretical and Practical Views Regarding Its Cultivation

[By Arthur Tappin Marvin ]

There is perhaps, no variety of fruit culture in the State that is at the present time attracting more notice than the olive. At the same time to all except the nursery man and owner of the olive ranch, it is but little understood. The int rest in its culture is manifesting itself in various waya: the testimony of any proprietor of an olive farm ou this sulj ct .s greedily caught at; the lists of all nurseries show it; the late display at the Mechanics' Fair this summer, where on exhibit from the Quito Farm of an olive tree, oil and processes, and the large crowds it attracted all go to show that in the minds of many practical men the olive is already considered as one of the large industries of the State, Ignorance on this subject is perhaps the only reason that deters many from setting the olive out; it is therefore with pleasure that we hail a work on the subject, written from the peu of a gentleman who has studied the olive with such close attention both in Italy and at home, and whose knowledge now given to the public must add materially to the development of its culture in the United States.

Mr. Marvin in his introduction very appropriately dedicates his work to Mr. Elwood Cooper of Santa Barbars, who is the acknowledged father of American olive culture in California. He refers to the interest he has taken in the olive since 1882, when his friend, Mr. Edward E Goodrich, purchased the Quito Olive Farm in Santa Clara valley, and during whose absence in Europe of four years he took direction of. His knowledge of Spanish led him to study the writers in that tor gue, and through the kindness of his friend in translating the valuable information contained in the works of Prof. Caruso of Pisa, ulsu of Signor Guilio C ppi and the manual of Signor Raffiello Pecori of Florence, the leading nurseryman of Italy. The last work is still unpublished, but permission has been given his friend, Mr. Goodrich, (who has been spending his four years in Italy studying the olive culture) to make use of his manuscript. These works, to gether with many others in French and the experi nce of the late foreman of the Quito Farm, Signor Ludovico Gaddi, a native of the province of Lucca, and one, as the Italians say, "born under the olive, have, with his much study, made this work most interesting and instructive.

The book is a tasteful volume of 116 pages, bound in green cloth, and combines valuable plates, of the various species, the mode of pruning and grafting, its posts, etc., all taken from works prepared by the Agricultural Department of the Italian

The headings of the chapters are well selected. That of the first runs: "The trees went forth on a time to anoint a king over them, and they said unto the olive tree, reign thou over us."

Herodoua tells us that in his time in Athens the olive was cultivated, and in laws of Solon, six centuries before Christ, its culture is mentioned. The Romans used it in the gymnasium, and sold the scrapings of the citizens exercising there for 60,000 sesterces. These scrapings were supposed to be endowed with great curative properties. The ancients regarded the olive with reverence and awe; the for pickling, but has been imposed upon,

Greeks dedicated it to Vinerva, and the Romans mingled the leaves in the triumphal crowns of their defenders.

The ancients used the oil for anointing the body, but the modern uses are for food, light, sosp, dyeing, perfumery, drugs, the manufacture of cloth, machine oil, and a host of other ways.

The demand for olive oil greatly exceeds the production. Italy comes first, and produced in 1880, 86,000,000 gallons, which is the highest return, and devotes 2,250,000 acres to its culture. Spain while producing 150,000 gallous, exports only 10,000 gallons on account of its numarketable quality.

France produces 9,000,000 gallona, but altogether the three countries do not export more than 30,000,000 gallons of oil, most of which goes to France, while little or none finds its way to this country that has not passed though the hands of the "doctor" in adulteration. The California grown olive shows a marked difference in point of size to the Italian, a tree at ten years old being both larger and more productive. The author puts its possible period of life to be 300 years.

## ON THE SUBJECT OF THE BETURNA FROM AN OLIVE PLANTATION,

The author thinks that in California we may safely calculate a gallou of oil per tree. The maximum yield is 20 per cent. of oil for weight of berries, from that down to 10; if less than this, it should be dog up and a better variety planted. A large and fully developed tree has been known to yield as much as 16 gallons of oil. About 50 trees to the acre is the present mode of planting and the price paid this year for quality known to be pure was \$15 per gallon.

## ON THE SUBJECT OF ADULTERATION,

Mr. Goodrich, while in Florence, Italy. found it each year an increasing difficulty to procure pure oil; in fact, the manager of a large olive grove in the vicinity, told him he did not b lieve it possible to procure any there. Twenty-seven per cent, of all the cotton-seed oil shipped from the United States is used to adulterate olive oil. In Italy it is ponred over the clives in the crusher to thoroughly mix the two oils. Mr. Marvin explains the many articles used to adulterate, and citea a simple and homely test for the detection of it, viz.: To heat the oil till it smokes, in some small vessel. The smell of the olive oil is not disagreeable, only suggestive of the kitchen; while any counterfeit oil, and especially cotton-seed oil, is exceedingly off usive to the nostrils. If placed on a refrigerator, pure oil will remain unchanged, while adulterated oil will thicken and congeal.

The second chapter deals with the species. There are no less than 38 in number grown in Europe, Asia, Africa, America and Octanica. Of those grown in Europe, the author groups in four classes, viz: the first as oil-press olives, second as middleclass olives, third as saedling olives, and fourth as wild olives,

The Mission, known on our coast, or Cornicabra in Spain, is one of the best class though there are others that are of auperior quality as oil-producing olives; but on this point we must refer you to the work before us. The Picholine, so called, comes under the second class, and the author very fearlessly casts a suspicion on the gennineness of this variety grown and known in California. The original importer, he maintains, had the intention of introducing the Queen olives, a large olive

as the similarity of growth, the size of the Italian, Austrian and French scientists on berry, its low stature and its hardiness, all pronounced its being one of the various forms of wild olive, and he condomns it as utterly uscless for the production of oil, but the very best stock upon which to graft,

On the climste in which the olive will flourish and fruit, Marvin takes the zone between 45 and 18 degrees north latitude and the same south, with a temperature not less than 57 degrees F. Colfax and places north of similar altitude touch the northern I mit in California. A soothern exposure, where there is a good free circulation of air, is generally the most desirable for planting. This chapter on climate is most interesting and deserves careful study.

SOIL.

The clive will live in almost any soil, except a dry and compact, or a bomid one. The analysis of the ashes of the wood, leaves and fruit shows that potash and limare the main ingredients. The deduction, therefore, is that soil possessing these ingredients is necessary for the complete develorment of the plant and production of

In general it may be said that the olive requires the same kind of soil as the vine, as they flourish well when grown together. Very interesting tables are given as to the absorption of inmidity from the atmosphere. It was thought that the olive would not grow if planted more than 90 miles from the sea but it has been well established that it can be grown at any distance inland, provided the soil and climate are agreeable to it.

#### PERTILIZATION.

In the rich and almost virgin soil of California, it is probable that at present, fertilization may not be necessary, but where soil is light or poor it has been found by the Italian and French student that the planting of beans, lupins or vetches to be plowed under in the spring are good manure. The refuse from the oit-making, the ashes from the burnt bracehes in pruning, the dregs of pressed grapes, old rags and boots and many other things are given to aid in restoring to the tree that which it has lost in fruit, leaves and wood. Under this head the author describes the senson to manure, the different kinds of manure, the amount and probable cost of cultivation and other pertinent matters in caring for its culture.

In speaking of the multiplication of the olive, he says it is grown from seed, cuttings, from truncheons by grafts, suckers, from knote or by laquering and by pieces of the root; and full directions are given for each method as well as for the grafting.

## CONSOCIATION.

In Chapter VII, Marvin says: "Many in California who foresee the probable success of olive culture, dread the loss of time in the making of an olive orchard as compared with other fruit farms." To them this chapter will be of special interest, for it telts of the old way of consociating olives with other trees, vines, etc. This plan is being adopted on the Quito Farm with vines, and appears successful.

## PREPARATION OF THE GROUND.

This chapter treats fully on this head and indicates the value of extreme care in culture as well as in transplanting.

For want of space we must leave the reader to study the chapters on Pruning and Pests for himself, and will proceed to that ou

HARVEST AND PRODUCT,

Which contains the interesting study by Subscribe for THE MERCHAST.

the development of the olive berry; and it is to be hoped that our Agricultural Department will eventually make an exhaustive on of the California fruit.

A partial experiment is being made this season by Dr. Taylor, of the Microscopical Department at Washington. The examination of the clive berry as the formation of the oil goes on is most interesting, and the conclusions as to the time of harvest will be of value, while experiments will decide eventually the California harvest-time. The various modes of harvesting are given, and some estimates of probable production.

## EXTRACTION, ETC., OF THE OIL.

The chemical elements of the oil are given in this chapter-the proportion of oil to fruit, the simple methods of the past, the various and more complicated methods of to-day for extriction. To this is added a list of the dangers to the oil in the process and in storage. "That cleanliness is next to godliness" seems to be especially true in olive-oil extraction and storage,

The nuthor notes that olive culture in the future is destined to be of national importance, and not limited to California, which is, perhaps, however, the most favored locality, and in closing his most interesting work (which cannot be reviewed fully in the space at our command) says that the time has come for the State and National Governments to act. "What might not be the value to this State of the knowledge, skill and experience of a trained expett on the culture of the olive and the processes of oil expressing, if the services of such a our could be secured for a sufficiently extended time to allow a fair application of his knowledge to the new country, soil and climate! Certainly such an experience would be less costly in the end and more satisfactory than to send an American abroad to study the culture,"

## PICKLING OLIVES

Olive culture in this acction is gradually working its way to the front. A Pomona Times reporter last week visited the sc-ne of G. C. Muir's olive pickling operations, at his place south of town. He has charge of the white orchard, east of town, and is progressing finely with the work of pickling. We saw there olives in all stages, from the newly picked to the thoroughly pickled, rich flavored. Before beginning op rations Mr. Muir visited the Kimball Brothers, at National City, and the famous Elwood Cooper place at Santa Barbara, and studied the methods and plans which are employed in producing their well-known and popular brands of olives. Mr. Muir has now about 1,500 gallons put up in from two to tengallon kegs. He also has 1,000 gallons in the lye vats. The gathering of the entire crop from the seven acres will be completed this week. The yield will be about 3,000 gallons of pickled olives, and those who claim to be experts pronounce them to be far superior to the imported product. They are large and possess that rich, nutty flavor which makes the olive so great a favorite with epicares. Some experiments have been made also in extracting oil, and have resulted most satisfactorily. The process of pickling olives, as well as of making oil, is tedious, requires close attention, patience and work, yet Mr. Muir says he is satisfied that, counting all these things in, the olive will pay handsomely.

#### THE LEMON.

#### Best Varieties to Plant and Method of Handling Crop.

There is no fruit that has a more promising future in this State than the lemon. It is a tree that fruits well, blooms all the year round, and is ripening its fruit in every month of the year. The best varieties only should be planted-such as will undergo the curing process. A marketable lemon should not be large, but of medium size, sweet rind, and strong acid. The common seedling lemon does not pay to grow; its keeping qualities are very poor; if put to euring, as soon as it leaves the process will be found to be worthless, as almost every lemon will show signs of deeny. Therefore it cannot be expected that lemons of inferior quality will pay their culture. The varieties described nuder this head are of foreign origin, and are recommended (excepting the sweet lemon) as being marketable prolific bearers, good keepers, and such as the fruit growers should plant for profit,

Lisbon. Imported from Portugal. Fruit is of medium size, fine grain, sweet rind, and very strong acid; a very few seed . The fruit grows very uniform on the tree, a good keeper, and a profitable bearer. Lemons can be picked from the tree at any time of the year.

The tree is a strong grower, and makes a larger tree than the other varieties deseribed under this 'head. It is quite thorny, but thorns decrease in size as the tree grows older. A very desirable variety.
Villa Franca. Imported from Europe.

Is of medium size, considered to be the finest lemons grown. This lemon has fruited in Los Angeles for several years in the orehard of J. W. Wolfskill. Fruit oblong, slightly pointed at the blossom end, rind thin, without any taste of bitterness. even when green; acid strong, juicy, nearly seedless. Tree thornless, branches spreading and somewhat drooping, foliage suffieiently abundant to prevent the fruit from searching. The variety has the name of withstanding a lower temperature than any other imported varieties.

Genoa. Imported from Genoa by Don Jose Rubio, of Los Angeles. Medinm size, oval, sweet rind, thornless, and nearly seedless. Tree is of a dwarf habit, a good keeper; one of the best.

Asiatic, Imported by J. W. Wolfskill, of Los Angeles. Fruit medium size, oval, thin rind, without any trace of bitterness under the most careful tests. Tree and fruit resemble the Genos, but a better acid. thornless.

Sicily. This lemon was about the first cultivated in California. Since then many other varieties have been introduced which are far its superior, However, if put through the proper trealment will produce a good lemon.

Sweet Lemon, (Sweet Lime, Lima.) This variety was cultivated by the early settlers; it must, therefore, have been introduced by them from seed or cutting. The fruit is different from all other citrus fruita. It is not like an orange, resembling the lemon. General Vallejo says "that he remembers having eaten this at Monterey in 1822 and that he saw trees that same year growing at the San Gab riel Mission." The fruit is very sweet, although the pulp is very coarse, is esteemed by many, especially for its sweet seent, but the demand for it is very limited. Best varietics of California origin are:

Eureka. A native of California, originated by C. R. Workman at Los Angeles, from seed imported from Hamburg in 1872, only one seed growing, from which buds were put by him on orange stock. Introduced to the public by T. A. Garey, of Los Angeles. Fruit medium size, aweet rind, a good keeper, considered by many to be the best, but the drawback it has is the leaves are inclined to curl, scarce foliage, fruit produced at extremities of branches and liable to get sunburned; does better when grawn on large seedling orange stock; the tree is thornless.

Agnes. O iginated at National City by Mr. Frank A. Kimball. This lemon is of superior quality, medium size, sweet rind, pulp very fine, with strong acid and very few seeds; thorns few, short and blunt, is a rapid grower, but dreoping in character; medium dwarf. This lemon has fruited for six years with Mr. Kimball, and has proved itself to be a good keeper and a very desirable variety.

Olivia. Originated by George C. Swain at San Diego. Froit of medium size, and said to be of excellent quality; strong neid, and a good bearer; thorny.

Gorcelon's Knobby, Originated by G. W. Garcelon at Riverside. The fruit is of medrum size; when cured very thin rind, juicy, and the tests have found it to contain more citrie acid to its size than other lemona.

Miscellaneous Varieties. The varieties under this head have no particular value. rendered so by the bitterness of the rind, and bitter acid. They should be disearded. California Sicily. This name has been given to the common Scedling Lemon. The Bouton, originated by General Bouton at Los Augeles; a vigorous grower; sweet rind when cured, but tree very thoray; fruitful of seed; a poor keeper.

The Bennie Brae. (Higgina Lemons.) Originated by H. M. Higgins, of San Diego. A vigorous grower; tree thorny The foliage is different from any other lemon, resembling the Chinese Lemon. Size medium; rind thin, bitter. Fruit ribbed, somewhat like the muskmelon.

The Sweet Rind is a California seedling. Fruit very large; free; very thorny; inferior.

The Chinese Lemon was extensively cultivated in California as a stock for building the orange upon. This practice was soon abandoned, for it was found that the fruit grown upon it was very coarse and sour, which rendered it unmarketable. The root begins to decay about the second or third year after the buds begin fruitiog. The root is not strong enough to hold the weight of the top made by the orange bud. and being brittle, the trees are blown down by the wind. The fruit is used for preserving purposes, similar to the citron. In California it has never come into favor. The tree is dwarf. It fruits all the year round.

## GATHERING THE CROP.

In this State, March, April and even May and June, are the heat months in which to ship the general crop. Oranges grown in the northern and central parts of this State color much earlier than those grown in the southern counties, but an oranges are tipe then (excepting early foreign varieties), but being highly colored, they can be placed in the market in December and January. The tree should never be picked clean; only the ripe fruit years old, which have as yet not been in grape purchasing public.

the trees. The elean, bright colored, smooth, fine skie, and firm oranges will always command the best prices .- Exchange.

## PRUNES AND APRICOTS.

A Santa Clara valley producer, speaking from personal experience, says silver prunes should be fully ripe before drying. hut not "mnshy" soft. You should avoid bruising the fruit, for bleaching, like beauty is only skin deep, and seldom hides what lies beneath. You will find that such bruised spots will change in color to brown if not black, and, if badly bruised, will look when cured more like a "Tar Drop" than a "Golden Drop" A tar color warrants tar prices, while a golden color warrantgolden prices. In dipping the silver prunbefore drying, you will find that, like the French, many of them will not "cut," no matter how strong or how hot the lye, a the length of time they remain in it. U il the prunes are placed on the trays to dry you cannot feel positively cortain as to whether you will make a guin or a los from the business.

If they do not "cut," are very soft and flatten while on the trays, or are green and hard, it is not a difficult matter to balance your prune account by profit and los-The sooner the fruit is bleached after b ing dipped the better, for if the bleaching is not done immediately after dipping th prune will change in color to a dark russett, which color I have never been able to wholly remove. The quantity of sulphur used depends upon the time required to bleach and this depends upon the condition and construction of your sulphur box or house, as well as the rapidity with which the sulphur burns, the condition of your fruit and size of your sulphur box I have found it necessary for the reasons which I have never been able to fathom, to bleach silver princes in some instances for sixteen hours, while from two to six honrs is the average time; and in some instances the results obtained in two hours could not be improved. Four pounds of sulphur on an average is sufficient to bleach a ton of ailver prunes, provided your aulphur box is tight and will receive the quantity at a charge.

As to drying, I find that the best results can be obtained by drying in the sun; in fact, I have never seen strictly fancy fruit of this variety enred in any other way. While drying, the fruit should be covered over at night, and when sufficiently cured placed in your packing-house in bulk to go through the sweating process. To produce the most attractive appearance, silver prunes should be flattened when about half cured. I employ an ordinary fruit press for this purpose. Some of the prunes will become more or less discolored while drying. The cause for this I have been unable to discover. Some dryers claim that it is due to the fact that the fruit has not properly matured, which pussibly is the cause. This discoloration not being discernible until the fruit is almost dried, I have found it impossible to pro. vide against considerable loss from this cause. After the fruit has gone through the sweating process, but before it gets hard and dry, sort and pack it. I do not consider that there is any need of dipping in hot water just before packing, as I have never found a worm in or about the fruit. I have dried silver prunes three

should first be picked, thus lightening up jured by worms. Three pounds of fresh fruit will make one pound of dried, except in the ease of late irrigation or very small fruit, which requires somewhat more.

With approximate truthfulness I may now quote the closing sent-nee of Josh Billings' speech on "The First Baby," "That is all I know on the subject." Those who know more or are better posted I hope will arise and explain.

When fully ripe shaks them on a sheet from which pour them into your boxes, Gathering the fruit in this manner does not injure it if pitted within a reasonable length of time after shaking. Two men can gather in this manner as much fruit as ten men by the old method in the same length of time. As long as the pulp adheres to the skio the aprient is not too ripe. If the flesh has left the skin, at which joint fermintation sets in, the fruit when lried will become discolored and black and lmost worthl ss. If-fermentation has but ist begun, sulphuring will cheek it, and ie dried fruit will be found to be but little jured. Bicach the fruit thorn ghly. outphur will not injure it in the least, esrecially in the eyes of the trade, provided is dried in the sun. When properly ured remove from the trays to the pael g-house, sort the fruit as I put it in bulk al allow it to sweat. If your apricots re large, five pounds of fresh fruit will take one of dried; or six pounds is the avrage quantity required. I produce the inest dried fruit, both in looks and flavor rom the variety known as Moorpark.

#### BELIEVES IN THE WOODRUFF.

Mr. Geo. W. Campbell writes as follows to Green's Fruit Grower.

I find you reported in the proceedings of the American Pomological Society as saying in reference to the Woodruff red grape; "Bunch small, quality poor, very pulpy

and foxy, but productive and handsome.

I think this does not fairly represent the grape, especially "small" as to bunch, which, as I have seen it, is very large, both in bunch and berry. Quality is a matter of individual taste to such an extent that I never question any one's opinion on that point. But oine out of ten who have tasted the Woodruff in my presence have expressed delight as to its quality, and pronounced it very good. And about nineteen in twenty would call it at least good. I have heard parties express a preference for the Woodruff over the Delaware. So much for quality. For myself, while I would not eall it very poor, I should not, to my taste, class it as very good, but I do think it as good as Concord or Ningara, and it is earlier in ripening than either. I think, also, it will be for general enliurs one of the most popular and generally useful red grapes we have. It is so strong in growth, so productive, so healthy in foliage, and so perfectly hardy, combined with large size, beautiful color and early ripening, it must be popular and valuable, especially for market. And its quality will be found good enough for the great mass of buyers and consumers.

I know no other red grape with so many of the requisites for a popular grape for every body to plant, as they do the Coneord; and unless something better, and with more good points soon appears, I shall expect to see the Woodruff take a place beside the Worden and Concord in the estimation of the grape growing and

The following is the correspondence hetween Gov. Waterman and the Director of the U. S. Geological Survey, relative to the irrigation of the arid lands of California:

SACBAMENTO, D. c. 10, 1888.

W. F. Vilas, Secretary of the Department of the Interior, Washington, D. C .- Sia: I am informed that at the last session of Congress an appropriation was made for the survey of the arid regions of the United States with a view to ascertain the best location for reservoirs for the storage of water for irrigation and to reserve for public benefit such reservoir sites as are still upon the public lands. I am also informed you are now forming surveying parties for the purpose of such surveys

My object in writing this communication is to present the claims of California to a share of the benefits which may accrnfrom the expenditure of this appropriation.

In support of this claim, I have the honor to represent that there are large areas of rich soils in this State which have a small rainfall. These areas have a semitropic climate, and with irrigation would grow semi-tropic productions of immense value. These areas are located along the eastern slope of the Coast range, and extend from the northern portion of Shasta county to the southern boundary of the State, a distance of 700 miles. The average width of this belt is 20 miles, or 8,960, 000 acres, which must be irrigated to be of public or private value. Intersecting this long helt of land there are a large number of streams draining the whole Coast range, which carry large volumes of water in the rainy season and which are dry in the summer and autumn months, when growing crops need water the most.

In the Coast range, near the sources of these streams, there are narrow valleys. ravines and conyons that with small cost could be converted into storage basins for an inexhaustible supply of water.

It has been proved beyond doubt by ex periments extending over a period of years that with water these lands will grow cotton, sugar beets, tobacco, oranges, lemons, prunes, apricots, olives, raisias, grapes and many other semi-tropic productions, as well as a long list of decidnous fruits,

If these lands were cultivated to these various products they would supply much of the large amounts now imported from foreign countries. We have proved by ample experiments that 20 acres of such land, irrigated and planted to these semitropic products, will yield a liberal support to a famity, and therefore you will see that this belt of land, now arid and comparatively valueless, would become the home of a population equal to that of some of our larger States.

The annual production and wealth which the development of these lands would give would be enormous. therefore of the first importance to the United States and to California that the steps contemplated by Congress in making this appropriation should be taken at once,

I respectfully invite your earnest attention to the claims of this section to a fair share of the benefits of that appropriation and urge your early action thereupon

R. W. WATERMAN, GOVERNOR.

DEPARTMENT OF THE INTERIOR. UNITED STATES GEOLOGICAL SUBVE WASHINGTON (D. C.) Jan. 11, 1889.

To His Excellency R. W. Waterman, Gov.

GOVERNMENT WORK FOR TREE. Your favor of December 10th, in which you call the attention of the Secretary of the Interior to the desire of the State of California to share in the advantages of the irrigation survey, has been referred by the Secretary to the Director of the Geo-

In response, I have the honor to assure you that the importance of irrigation survey to the agricultural interests of California is profoundly appreciated, and that there need be no fear that the State will fail to receive its due share of attention. As set forth in the accompanying executive documents, it is believed that the special surveys for the selection of reservoir sites and the segration of irrigable lands should be based upon a general topographic survey, including the entire eatchment basin of each stream. Such topographic surveys have been in progress under the direction of the Geological Survey for several years, and portions of Central California and Southern California have been included in this work. The appropriation made by Congress to icitiate the special irrigation investigation could not be economically idioinister d by the simultaneous institution of work in each of the fifteen States and Territories of the arid region. As will be seen by the accompanying preliminary report to Congress, it was thought best to organize only five parties at the start and to select for the work of these parties a series of representative localities calculated to develop as rapidly as possible the methods of work which would prove most advantageous.

It is hoped the Congressional appropriation for the n xt fiscal year will permit the corps engaged in the irrigation investiga tion to be greatly enlarged, so that the work can be rapidly carried forward at a large number of points.

J. W. Powell, Director.

#### THE MUSCAT GRAPE,

H. W. Crabb, writing in the California Florisl and Garden, says:

The White Muscat of Alexandria, is the well-known grape which furnishes the Muscatel raisine the world over. Bunches, very large, long, loose shouldered; berries, large, oval, unequal in size; skin, thick, paie amber, to rich golden; thin white bloom; flesh, firm, moderately juicy, sweet and rich; fine muscat flavor. It is known under twenty or more synonyms. I have imported twelve varieties myself, each reputed to be something enperior, but when all are grown side by side in the same soil, the quality, flavor and all the characteristics, were the same, excepting a slight change in the shape of the berries, which only amounts to a distinction without a difference. It is a heavy bearer, producing two crops in one season. It grows vigorously for eight or ten years, and then begins to decline, Its vigor and longevity may be extended by grafting it on to more vigorous stocks, such as Mission and Flame Tokay,

The vine should be pruned short on thin soils, but on rich soils and irrigated lands a couple of long caues may be left, being always careful to not overload if cultivating for raisins. The vine is subject to mildew and coulare. The former is caused by dampness, want of circulation of air or a murky condition of the atmosphere, and msy be prevented by timely applications of

ing time, and by mildew. The vine should have an application of sulphur just at the commencement of blooming, so as to prevent the presence of any mildew at the most sensitive period.

It was probably first imported into this State by Mr. Delmas of San Jose, some thirty-six or eight years ago. It is grown in every clime where grapes are cultivated, from California to South America, from the hot-houses of New York and London to the Cape of Good Hope. If I were to have only one choice from the whole catalogue of vines, I would select the Muscat; for it is the prince of grapes. For raisins it has no competitor. For the table or desert it has no superior. For canning and preserving, it is unexcelled. For jelly it is unsurpassed by any other. No hot-house list is complete without it. From it the finest sweet or liquor wines of the world are made, such as Vino Santo, Mosentta, Lachrymo Christi, etc. The rich muscadine wines of Cyprus (such as Mission and Flame Tokay) are said to become like syrup with age The Lagrimas of Malaga made from the Moscat, are even superior to the world renowned Tokay. It is the grape which furnishes the celebrated Huasco raisin of Peru, the most delicious raisin known to commerce. They are grown by irrigation on elevated red volcanic soil intermingled with fine quartz gravel, which accounts for the thinness of their skin. The buoches are hung up in the open air with a slight covering of brush as a protection against the scorching rays of the sun, and are left to cure in the shade, which is the cause of their being without bloom, light in color and translacent.

#### CHALK FOR CONSUMPTION.

A German physician, Dr. Lonis Halter, having observed that workers at the chalk kilns in his country do not suffer from phthisis, deduced from this the theory that the high degrees of heat to which these laborers were subjected was the cause of their immunity. The workmen are exposed once or twice daily from ten to thirty minutes to an intense heat, the bodily temperature being raised sometimes as high as 160 degrees Fahrenheit, with consequent increase in pulse and respiration, diaphoresis and rapid tissue changes. They drink very large quantities of water and considerable alcohol. Dr. Halter says that the temperature of air in the lungs is normally about 100 degrees Fahr., which is that most favorable to the development of the tubercular bacillus. If the inspired air be raised to the temperature of any I13 to 122 degrees, the lungs will be heated beyoud the point favorable to the growth of the bacillus. The practical applications of this theory as proposed by Dr. Halter are hot baths, inhalations of dry air of a high temperature, and the addition of antisepties to the hot air when desired. Forced inspirations are interdicted and inhalations are made through the mouth only, as the nerve terminations in the nose are too sensitive to bear the heat.

Independently of Dr. Halter, an American physician, Dr. Weigert, residing in Berlin, has been making experiments in the same direction. He finds that the tubercle bacillus dies outside of the body at a temperature of 106 degrees Fahr., and is nofavorably affected by one of 100 degrees. Experiments have been made on patients sulphur. The latter is caused by strong beginning at a temperature of from 101 to ernor of Culifornia, Sacramento, Cal., -Siz: winds, extremes of best and cold at flower- 140 degrees Fabr., and gradually raising it with some dark-colored paint.

as high as 176 degrees. The air was perfeetly dry and the patients bore it well, continuing to inhale it for from three to four hours a day for a month. The gencral effects are represented as having been remarkable, the patients becoming quite robust; and the bacilli in the sputum which had been very numerous, rapidly diminished in number and gradually disappeared altogether.

It had been suggested by one commentor that perhaps the chalk dust might have something to do with the immunity of the laborers, but Weigert's experiments seem to show that if there is anything in the new treatment, hot air is alone to have the

Both Halter and Weigert use dry sir; Krull, another experimenter in the same line uses moist air, his work ante-dating that of the other observers named, and favorable results have been reported by him also. So the idea is not wholly new, but is very philosophical .- . Inalyst.

#### RENOVATING RUN-OUT ORCHARDS

The following article on the subject appears in the January number of American Agriculturist:

We often meet with an orchard of apparently healthy trees, which is practically fruitless. The owner may tell us that it formerly bore abundant crops, but of late years the trees have "rnn out," Why have they "run out?" They formerly gave good crops of apples. All the other land on the farm was expected to give but one good crop, but this of the orchard was made to give a crop of grain, or a crop of grass or clover, to be taken off as hay. The soil soon became tired of doing this double duty. The trees "gave out" because they were robbed of food; the first thing they need is feeding. Of course if the soil needs draining, lay the needed tiles at once, or as soon as the soil will allow. Such orchards are usually in grass; draw on a heavy dressing of manuro and spread it, and, as soon as the soil is in proper condition, turn over the sod and the manure with the plow; with the hot weather the sod will decay rapidly. When this is found to be well rotted, give another plowing, and a deep one. If ashes can be had, spread a heavy coating and harrow; in the absence of ashes, harrow in a good dressing of time. If the trunk and larger branches are covered with loose scales of old bark upon which lichens and mosses have a loot-hold, scrape off the loose bark, using a blunt, short-handled hoe as a scraper. Then in a damp time or thaw wash the trees with soft soap, made thin enough to apply with a brush. Use home-made soft soap, made with lye or potash. That sold at the stores is usually merely hard soap mixed with water and very deficient in strength and quite inferior to the home-made. Mix the soap with enough water to work readily, go over the scraped portions with it, and leave the spring min to finish the work. In due time the bark will be found beautifully smooth and deprived of all foreign growth. The soap that has been washed into the soil will act as a useful fertilizer. Long neglected trees usually require pruning, and this must depend on the condition of the tree. Never cut out a branch without good reason for it. If the top has become crowded, cut out enough branches to let light and air into the center; if grown one side, remove the branches ne the balance. If large wounds are made, smooth the surface and paint them over

#### THE GRAPE VINE.

#### A Writer Treats of its Cultivation in the Eastern Districts.

The culture of the vine is an ancient and honorable occupation. Whether it autedates the flood, we know not, but one of the first recorded occupations of Noah after emerging from the ark was planting a vineyard. We also read that he made wine and was drunken, but we do not read of a repetition of this folly, and, judging from the ripe old age he attained, we infer that he reformed. Grape growing is carried on more extensively in the countries beyond the sea, than in our own land. Both saered and profane history abound in allusions to the vine and its products. It is everywhere regarded as a symbol of prosperity. Grapes are one of the chief sources of wealth in many of the European countrics. France has over 14,000,000 acres iu grapes, and planted in 1887 over 182,000 ucres of Americau vines, besides viues of her own growing. Grapes were introduced there in the third century, and have for hundreds of years formed the chief source of revenue of the government. Spain, Portugal, Greece, Italy, Germany and many other of the European countries, produce vast quantities of grapes.

Grape growing for market began in this part of the State, if not in this country, a little more than a third of a century ago. A gentleman residing on the shores of what was then Crooked Lake-now Lake Kenka -appreciating the value and heathfulness of grapes as an article of food, plauted a small vineyard for family use. They grew and thrived so welf in this location, that he had more than his family could consume, and, heing a man of ideas, he conceived the project of shipping his surplus to the city market. Carefully packing a harrel of grapes in shavings, he sent them to New York. They arrived in due time, were sold at a good price, and the proceeds remitted to our adventurous shipper. The dollara he received produced an itching for more, and he straightway packed and shipped another barrel. This glutted the market, and he received word to send no more. Thus, in this small way, began an industry that has grown to immense proportious; that occupies thousands of acres of land in our own state, employs thousands of persons, loads whole trains of cars and brings a revenue to the producers of hundreds of thousands of dollars annually,

The area of auccessful grape growing in this State has been restricted heretofore to the immediate neighborhood of the small lakes in central and western New York and to the valley of the lower Hudson. With the introduction of hardier varieties, the limits are being gradually extended, so that grapes are now profitably grown for market, where only a few years ago a supply for the family was the exception and

Grapes are so easy of culture that every one owning a foot of land should plant them. They require a warm, dry soil, not too rich, to grow in perfection, but will grow almost anywhere. The south side of a building where the vine may be trained on the wall, is an excellent place. In a western city, a jeweler showed me his grapery. In a yard back of his atore, containing but a few square feet, and surrounded by high brick walls, he had plauted a few vines, and trained them upon the walls. In this limited space he grew more grapes, I will venture to say, than half of the farmera in the country.

having a sunny exposure. Dig a hole large and deep enough to spread the roots out well, and put the viue well into the ground. If you have any old bones bandy, dead poultry, cats, dogs, (hest use for dogs ever discovered,), or anything of the kind, bury it where the vines can feed upon it, and you will be surprised to see them grow. Cut the top back to three or four hads when planting. Drive a stake a few feet high by each vine, rub off all the buds that start, but the strongest, and tie this shoot to the stake. If you plant any grest number of vines, the work of planting may he expedited by using a tesm and plow to belp do the digging. Plant strong growing kinds like the Worden and Niagara, ten feet apart, in rows ten feet apart. Weak growers, like the Delawars, may be planted as close as six feet each way.

What varieties to plant? This question is about as delicate a oue to decide, as that of awarding the prize at a baby show. The variety that succeeds on my farm may not on the farm across the way. What suits my taste may not suit my neighbor. There are some old varieties that succeed almost anywhere, and the beginner is generally safe in atarting with these. Don't be in too much of a hurry to plant every new kind advertised. Among the blacks, the Worden, Moore's Early and Concord; among reds, the Agawam, Vergeunes and Delaware are good varieties and succeed almost anywhere where grapes will grow. As yet we have no well tested white grapes that succeed over the same territory as the hlacks, although several new kinds have promised us all that is desirable in that direction. We have not, as yet, fruited the most recent introductions, but as several of the comparatively new kinds fruited with us for the first time the past senson, a few notes in regard to their behavior, may not prove uninteresting. Readers will please bear in mind, however, that the past season was one of the most unfavorable for grapes that we have had for a long time. They ripened very slowly and were of very poor quality.

We had always considered Moore's Early our earliest grape, but this year we were agreeably surprised to find one of our newer kinds, the Telegraph, ripening several days earlier. It is a black grape; berries small, about the size of the Delaware and looks much like it, excepting the color. Very compact clusters and of good quality. From a single season's fruiting, we should say it is a good grape to plant for early, at least for family use.

Moore's Early came next, ripening about three weeks before Coucord (which didu't ripen fully with us this year). This is a hardy strong-growing vine, and is productive of somewhat straggling clusters, of very large, black berries, of good quality. Should be largely plauted.

Brighton is one of the best, if not the best, red grape grown. The vine is somewhat tender, and needs protection. It is moderately productive of fine clusters of light-red grapes of the hest quality. It will pay to plant this for family use, though some extra pains have to he taken with it to carry it through the winter.

Worden scored another triumph the past season. Hardy in viue, it ripened its crop of fruit fully, while the Concord failed. It is larger in berry than Concord, earlier and fit to eat as aoon as black. I: does not, however, hold its flavor long after ripening, hat needs to be picked and marketed as acon as rips. The Worden has never been When our people learn to use the oil and \$12,000, and liabilities \$7,000.

its way stendily to the front, solely on its grately augmented, and prices will hold. merits.

Agawaiu (Roger's 15) is a good red grape, and a long keeper, though somewhat shy bearer. A very thick skinued grape, and grows rather atraggling clusters.

The Vergennes, a red grape, ripening about the same time as Agawam, is of much hetter quality, somewhat similar appearance, and much more productive. I think this will prove a most excellent sort to grow for market, as it is a long kceper, hardy, and very productive.

Woodruff Red fruited with me for the first time. It is a very strong, rampant grower, and enormously productive, but if 1 were under oath I should hardly eall it fit to eat. Some like it and call it good, but it is foxy. As it is so very hardy it might be an excellent grape to raise where better varieties cannot be grown, as it is better than none at all.

The Eumelan is a good black grape with very long clusters and medium sized herries. Ripens about with Concord.

Jefferson is a very late red grape which utterly failed to ripeu, but which showed such sweetness and delicacy of flavor in the partially colored berries as proved it to be a most excellent grape for a longer

The earlier ripeuing sorts I have indicated cannot fail to please those whose seasons are equally as long as ours, while the latter ones will do to plant where a louger period of ripening is possible.-Cor. Orange County Farmer.

#### THE OLIVE.

It is a little marvelous, remarks the Colusa Sun, that such a race as that occupying this Pacific coast for nearly forty years is just beginning to wake to the value of their home. There is, perhaps, not a spot on earth so wouderfully blessed with everything that makes life a success. Our winters are almost like spring, and our summers are never torn and terrified with storms and cyclones, while we have every variety of soil, from the red, rocky clay of the mountain side to the deep, rich, loamy valley lands of indefinite depth. We have for many years been growing wheat from the Sierras to the sea, and it is only within a few years that we have discovered our true wealth in the fruit producing capacity of Colifornia but our attention has not been sufficiently directed to the olive. It is one of our most important products. If a man had a few acrea in bearing olive trees, he might fold his hands and live at his ease. It is one of our most hardy, our most prolific trees, while it is almost as certain of a crop as that the seasons come. And herein lies one of its advantages. We can count with unerring certainly on something of a crop every year, and almost always a full crop; while the market is as unfailing as the crop, and we see no reason why the prices should not always be remunerative.

Purs olive oil is now worth \$12 per gallon, and the demand is much greater than the supply; and this, too, when it is used chiefly as a medicine. From time immemorial both the oil and the fruit of the olive have been used as an article of food. There is nothing more healthful and palatable when ouce the tasts has been acquired, and it is a taste that can be easily acquired.

Select a well-drained, warm piece of land, inordinately puffed, but has been winning fruit as food the demand for it will be

It is among our most long-lived trees. There are olive trees now standing and vielding fruit in abandance that are from 1000 to 2000 years. It is said that the trees on Mount Olivert to-day are the same under whose cool ahade the Son of God walked while on earth. As they are long lived, so are they slow in coming to maturity, or even to the point where they bear sufficient fruit to remunerate the owner; and this is oue reason why fast-moving Californiaua are so slow to plaut the olive. They want something that will begin to pay at ouce. To wait ten years on a tree is more than they can stand. And yet, many of these same Californiaus bave owned red hills that can acareely produce enough to pasture two sheep to the acre, that had they been set out in olive trees years ago, would be worth more than their richest lands The olive will grow in almost any soil.

But one to plant an olive orchard need not wait for ten years. Either plant your trees in the midst of your vineyard, or plant a vineyard in the midst of your olive orchard, and you can live off the fruit of the vines until the olive begins to bear. The vines can he removed gradually as the trees grow. There is no more beautiful tree for shade and ornamental purposes than the olive. How much better it would be to plant them in the yard, letting them take the place of the aucalyptus, Montersy cypress, the locust and other such trees.

The profits of a crop, when the trees are iu full bearing, are in the neighborhood of \$1000 per acre, and this is said to be a low estimate. Another important fact in regard to the olive is the time of the harvest.

This extends from about the first of December to the last of January, giving ample tims to gather the entire crop without a waste, as well as coming at a time when uo other fruit demauds attention. There ia no waste. All the green fruit when beaten the tree can he thrown into a pickle, while the ripe can be thrown into the vat for oil.

With these facts gathered at raudom we trust many of our fruit growers and farmers will turn their attention to this heretofore neglected fruit.

#### POLISHING REDWOOD.

The following is recommended by a San Francisco man as the result of a long ex-

One quart turpentine, one pound corn starch, one-fourth pound burnt sieuna, one tablespoonful raw liuseed oil, oue tablespoonful brown Japan; mix and apply with brush. Lettit stand fifteen minutes and wipe off with a soft rag, then allow to dry one or two days. Then two coats white shellac and rub down with fine flint paper, Then two to five coats best polishing var. nish. When well dried rub down with pumice stone and water, and stand another day to dry. Then wash clean with chamois, rub down with water and rotten stone. wash and dry, and then ruh with olive oil till dry. A smooth cork block or block of hard wood is good to rub down with.

Many au ingenious person makes little articles of redwood and hardly knows how to finish in the best style.

HENBY B. WAGONER, a prominent vineyardist and wine maker, has assigned to to the Farmers' Union of Livermore for the benefit of his creditors. His assets are

#### TREATMENT OF BLACK ROT

correspondents, Norman J. Colman, Com- use dilute to 22 gallous. missioner of Agriculture, has issued the following circular:

The experiments made in 1888 have demonstrated beyond question that the copper compounds, especially the Bordeaux mixture, can be relied upon to prevent black When the remedies were properly applied from 60 to 70 per cent, of the crop was sivid.

In vi w of these facts the preparations which furnished the best results in less are here given with the urgent request that onor more of them be thoroughly test d dur ing the coming season:

(1) SIMPLE SOLUTION OF SULPHATE OF COPPER.

Dissolve 1 pound of pure sulphat of copper in 25 gallons of water. While this preparation has, in a number of cases, been used with beneficial results, its employ ment, especially when the foliage is young and tender, cannot be advised. For spraying the vines in spring, however, before th l'aves appear, it will doubtless prove a efficacions as any of the following mixtures and is more easily prepared and applied.

#### (2) BORDEAUX MIXITEE.

- (a) Dissolve 16 pounds of sulphate of copper in 22 gallons of water; in another vessel slake 30 pounds of lime in 6 gallons of water. When the latter mixture has cooled poor it slowly into the copper solution, taking care to mix the fluids thoroughly by constant stirring.
- (b) Dissolve 6 pounds of sulphate of copper in 16 gallons of water, and slake 4 pounds of fresh lime in 6 gallons of water. When corl, mix the solution as described

This formula requires fresh lime. Air alaked lime, or a paste made by allowing freshly slaked lime to settle, contains a large percentage of water; consequently, if they should be combined in the proportions indicated, there would not be sufficient lime to decompose the copper. Experience has shown that while 4 or even 3 pounds of tresh lime is sufficient to decompose 6 pounds of copper sulphate, it requires double that quantity of air slaked lime and three times the amount of paste.

The manner of preparing the Bordeaux mixture may be modified in various waya, Colonel Pearson pulverizes the sulphate of copper, and then dissolves it in from 2 to 4 gallous of hot waer. The lime is then slaked in the sam way that masons slake it for mortar. This is strained into a box left to settle and thicken, and then combined with the copper, adding water to the required amount.

(3) SOLUTION OF AMMONICAL CARBONATE OF COPPER.

Into a vessel having a capacity of about 1 gallon, pon: I quart of ammonia (strength 22º Banme), add 3 onnces of carbonate of copper, stir rapidly for a moment, and the carbonate of copper will dissolve in the ammonia, forming a very clear liquid. For nse, dilute to 22 gallons. So far as we know, this preparation has not been used in this country as a remedy against blackrot. As a preventive of mildew, however, it has given satisfaction. It is easily prepared and applied, and adheres firmly to the foliage.

copper in 2 gallons of hot water; when for their laurels.

completely dissolved, and the water has cooled, add 1 ? pints of commercial ammo. In view of answering the queries of many nia strength 22° Baume); when ready to

(b) Dissolve 2 pounds of salphate of copper in 2 gallons of hot water; in another vess blissolve 21's pounds of carbonate of soda; mix the two solutions, and when all chemical reaction has censed add 11; pints of ammonia, then dilute to 22 gallons.

#### TREATMENT.

To indicate a definite line of treatment that will be applicable to all regions is somewhat difficult. As a first step, however, every precaution should be taken to remove as much of the infections material as possible. With this object in view the old eaves and rotten berries should be care fully collected in the fall or winter and burned or buried. The trimmings should also be burned as th y often harbor thousands of the minute speres or reproductive oodies of the fungus.

It spring after the vineyard has been from d and put in order by the plow, but sefore v getation starts, spray the vines boroughly with the Bordeaux mixture, ermula a, or with the simple solution of sulphate of copper. The object of this -praying is to destroy any spores of the ungus that may be hidden away in the crevices of the bark. I bout ten days before the flowers open, spray all the green parts of the vine with the Bordeaux mixture, formula b, taking care to wet the foliage thoroughly.

Spray again with the same preparation when the flowers are opening, repeating the operation every three weeks until the fruit begins to color. The necessity for beginning the treatment carly cannot be too strongly urged; it is absolutely necessary to insure success.

For applying the remedies, spraying pumps especially constructed nozzles are necessary. The Eureka sprayer, fitted with the improved Vermorel nozzle, answers the purpose admirably. With this machine which is carried on the back, knapsack fashion, a man can spray from 5 to 6 acres of vines per day, and the cost of treating an acre in an average season, using the Bordeaux mixture as indicated above, need not exceed \$12.

#### NEVADA COUNTY WINERY

The Nevada County Winery Association was organized just before the ripening of grapes last fall and had but little time to make preparations for making wine last season. The company leased the Blasauf brewery buildings, however, and proceeded to business. They made about 6000 gallons of Zinfandel wine and 500 gallons of Muscatel. The wine is now only three months old, but it is declared by all who have tested it to be a very superior article. A good many Frenchmen who are familiar with the best vintages of their native country declare the quality to be equal to the best French wines, and onless it was labeled as a California production the best judges would be anable to detect the difference. The age, of course, has not been reached to perfect these wines, but they show what the foothill climate and soil is capable of in their production. The Muscatel is a sweet wine, and in the valley wine acctions it is fortified with brandy, but the wine made here is the natural juice.

This winery will some day be famous for its production. The exhibitors at the State (a) Dissolve 1 pound of sulphate of Fair next year will be compelled to look out ungathered, that season, for \$5 m). They

#### REEPING UP AN ORCHARD

T. H Hosken, writing in Vick's Magazine, says. A very large orchard requires a large capital to run it. One might think that this would "go without saying." but it does not-not always. One of the largest orchards with which I am acquainted - some five thousand trees-though well located on naturally good land, and set to the best standard varieties about twenty years ago, has not yet nearly paid for itself, and without a heavy expenditure for ferulizing material, never can. The land upon which it is planted had been farmed in the ordinary way for many years before these trees were set. At that time it was in fair condition, as mowing, yielding three-fourths to one ton of hay per acre. It was plowed, set to trees, and subsequently kept in hoed crops, with enough manure to keep the trees growing fairly well. Nothing seemed to be wrong with it notil the trees reached bearing size; and then, after several years, it became evident that there was not st ength enough in the land to keep up growth and make apples, too. Since then it has "sort o' lagged along," to use the words of a neighbor, "but don't produce anything hardly." Other orchards of onetenth the anmber of trees, and no older are actually giving larger and better crops. Now, what is the matter? Plainly this orchard wants manure, and a good deal of it, and that pretty soon, or it will be gone up b youd hope.

Mr. Harris' Northern Spy orchard, of which he wrote in Walks and Tolks, is a ease in point, fairly illustrating the situation. It was considered a failure until he plowed and manured it, and then it produced big crops of such big fruit that, if I am not mistaken, less than one hundred of the apples filled a barrel. But it is going to take an immense quantity of manure to bring up this one hundred acre orchard like that, or anything near it. In truth, the manure can by brought by the schooner load (and a good many of them) from some large city to the lake shore upon which this crchard stands. At the ordinary price, I estimate that it would cost not less than seven thousand dollars to get the stable manure into the soil of that orchard, which it would require to make it profitably productive. The same effect might possibly be produced for some less money by using, iq place of manure, ground raw hone and Canada ashes. After one good crop has been produced in this way, this orchard enald probably be made to keep itself up, and pay a moderate profit on the whole investment. But first there must be this heavy investment of new capital, the necessity of which ought to have been fore.

As with a garden, so with an orchard-I have never yet seen one too rich for profit. I have never seen one apon which the last loads of manure did not pay the most profit. The most profitable orchard of the William's Favorite apple in the vicinity of Boston is kept " rich as a barnyard," The fruit is double what might be called the normal size of the variety; every apple is handled like an egg, and is got into the market just at its point of perfection. This orehard is very profitable, though small-The only orchard to rival this, that I have seen, is in the city of Montreal, where I saw, some seven years ago, thirty-six trees of Fameuse, the fruit of which was soll were very large and perfectly healthy trees, and costs about \$1 per sere,

which had, all to themselves, about an acre of rich land. It is well known that the Famense is an apple very hable to longoid spotting. I spent some tim in examining the fruit upon these great and heavily laden trees, but was unable to find a single sp cimen that was not p reetly fair. The trees had been so pruped that all the fruit was on the outside, where the branches lapped over one another like shi gles on a roof, each on load d with fruit lik ropes of

I will not say with any positiveness that h avv manuring is a cure for spotting. But I b gin to b lieve that it may be so, and I g t more proof of it every senson in my own orchard. All the Fam-use family are apotters, its finest seedling, the McIntosh Red. as much as any. Yet I had one tree this y ar, and only one out of about thirty, that not only bore a fine crop of large fruit, but had not a single spott done among them, and this tree grows where it gets a constant flow of water from a sink spont, and all the washing water of a family. I have noticed about Montreal that orchards of large and fair Famens are all on deep, rich land These are the fancy appl s that are so much admired and bring such fine prices. But spotted Famouse can be found in a great many orchards on the island of Montreal.

I suspect that it will turn out, on thorough investigation, that there is one other factor in regard to this diseas; of spotting -manure alone may not care it, unless the tree itself is quite sound and healthy. Now, with me, the Famense is not quite ironclad. The hard winters too close together kill it. McIntosh R d is a hardier tree than Fameose, but with 1 ss bardy flower buds, so that it does not bear so heavily. This being so, I doubt if I can entirely stop the Fameus: from spotting here by high cultore. I am aware that the longus which cans s spet attacks the leaves also, and perhaps primarily. But it seems to me that in rich land the chlorophyl is more abundant c rivinly the l aves are darker and the whole constitution of the leaf more vigorous and resistant; an apple fruit is simply five leaves folled togother, nuited at the edges and filled up on the inside with cellular tissue; may not the outer surface of the fruit-the skin-partake of this same vigor and resistancy? I cannot add Q. E. D., but it looks reasonable, don't it? It follows, then, that an apple orchard to be kept healthy and continuously productive, must have the fertility of its soil maintained by repeated applications of such mangres as the trees d mand, and if it is a profitable orchard, all the use ssary expense will be cover d by the proceels of the crop.

#### TO RAISE OPIUM

The San Bernardino I der says that a Chinaman, Ah Gee, who, except during the ten years he has spent in this State, has spent most of his time in the poppy districts of China, is endeavoring to procure a farm upon which to raise poppi s. He says that nowhere-not even in China-are there to be found such adaptations for the enlture of the poppy as in S in B rnardino county. He explains the manner of its enlture as follows.

The seed is sown in beds and the young plants are transplante linto rows. The plant grows to be large enough to produc some gum the second yer, but is at its best when from three to t n years old. Chinamen will take care fiten acres if they understand the business. The seel is sold by all the Chinese stres in San Francisco, by all the Chin se



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#### FRIDAY..... FEBRUARY 15, 1889

A WELL-KNOWN mining man of Nevada, in casting about for a sunny spot to pashis declining years under the shadow of his own vine and fig tree, finally selected Anburn where his eyes might be gladdened by an occasional glimpse of the snowcapped boundaries of his old time habitation. After purchasing land (Nevnda men always pay for everything) to set out the desired vineyard was the next object in life. The ground was prepared, and class of grapes decided upon, when in an unlucky moment he happened to pick up a paper containing an essay on California bugs and their devastating ravages on vines and fruit trees. If is hopes were shattered and his health began to fail. He returned to business in connection with the Comstock mine which he controlled, and worked assiduously to banish nupleasant memories. It is difficult to say how his case would have resulted had he not in showing the fatal clipping to a friend, accidentally discovered that it was taken from a Nevada

The vines are now being set out on the Auburn ranch by the thousand. All of them cuttings from the leading vineyards of California, and the only regret of the houest miner is over the time lost through not discovering the source of the annuying paragraph before giving credence to its misleading statements. His cellar will ultimately provide a special brand of wine, manufactured especially for free distribution among the Nevada newspaper fraternity looking towards their total extermination at an early date.

A CORRESPONDENT of the Santa Clara Valley estimates the total expense of cultivating an acre of grapes is \$15; the curing and packing of an acre of grapes, making I00 boxes of raisina \$55. The average price for raisins for the last four years has been about \$1.60 per box. Putting the price at \$1.50 per box for the four grades, we have a total net profit of \$95 per acre. Many vineyards do better than the above. yards have frequently bean known to produce grapes enough the first year after planting to pay expenses of cultivation. The second year brings from \$30 to \$50 per acre gross; third year \$60 to \$75.

THE PEOPLE of Nevada are busily eugaged planting out orchards and vineyards whose hospitality they enjoy. and hundreds of acres will be set out this sesson in Owens valley district alone. The trees and vines have so far been obtained from California nurseries, a fact which has apparently aroused the ire of some of our contemporaries on the Eastern side of the Sierras, who as a rule are more at home on the subject of dip spura and angles of a quartz vein. Tall stories always go in Nevada, and the following excerpt from a leading journal tends to show the menda. ceous absurdities, evolved in a spirit of simulation: "People on this side of the mountains should have nothing to do with trees or vines from the west side. They should establish nurseries of their own. Thers are in Western California a thousand varieties of bugs and tree and vine diseases. No inspection can detect many of the diseases. To show the contagious nature of some of these diseases we may mention that it has been thoroughly established in Eugland that the disease of timber known as dry rot is communicated to some timber through chisels and other tools that had been used in working infeeted timber."

It is difficult for any one acquainted with the conditions of life on the sage brush deserts to realize a cause for complaint in the liberality of our nurserymen. Bugs have always been a stuple commodity with the larger portion of the inhabitauts, who will assimilate more readily with an extra supply and buy juice galore, than with a superfluous product of fruit and wine. Let us hear no further dissgreeable allusions to the California bug or the supply may be curtailed by an advance in prices on the same principle as charging for chicken-the gentleman who grumbled over his half-hatched egg.

BONFORT'S Circular says: Among the wine trade at Oporto there has of late been considerable excitement, culminating in a strike of all the men employed in the manipulation and export of wines and leading to some excesses, so much so that the military had to be held in readmess in the barracks to suppress disorder if need be-The cause of the trouble has been the creation of the Real Companhia do de Portugal. The latter, at the instigation of Viscount Villar d'Allan, has recently been formed with a capital of 7,000,000 francs, and engages to pay fines to the amount of \$25,000 American gold if the Government can prove that any of the wives it may export are in the least adulterated. The Government has accepted the proposition, and will appoint inspectors who are to examine the casks and bottles to be shipped, stamping thereon the official export brand. This the numerous English export firms look upon ня a Government monopoly in disguise, and by way of retaliation engineered the strike. But there is a conuter movement on the part of Portuguese dealers and exporters who approve of the measure of energetically stopping adulteration of Portuguese wines intended for export. The Government, at the same time, in answer to the demonstration made by English firms, declared its readiness to extend the coutfol to the wines of the associated Euglish exporting firms. The matter has been in abeyance since, and it remains to be seen whether the compromise will be accepted. The British consul at Oporto disapproves the action of his countrymen, and declares that he cannot promise them protection if | year aggregated 21,047.

they disturb the peace of a friendly nation

The exhibition at Berlin of Portuguese wines got up at considerable expense, does not seem to have pro luced quite the result anticipated.

ENGLISH TRADE journals, note in contrast with the many difficulities France has at present to contend with, a marked improvement in her wine industry after many years of loss and destruction, occusioned by too prolific phyloxers, the pest seems to have been almost, if not entirely, stamped out. The locusts which plugued the Egyptians seem to have conferred many of their devastating powers upon the wine-louse, From the year 1865, when the creatures was found among the vives of Avignon, the French cultivators of the grape have been waging war with their multitudinous enemy. As last they have got him under. The vastatrix is vanquished, and once again the wine production of France is attaining something like its old level. The experience gained in the extermination of the pest ought to be of good service should the wine-louse appear in other countries. It would be foolish to suppose that the species is extinct; and its capacity for mu tiplying, onder (avorable conditions, is simply phenomenal. It is estimated that one of the species can bring into being some 25,000,-000 descendants in the period of six months and even then the reproductive power is not exhausted. If, as we believe, this estimate is within bounds, who can be surprised that in one year about 500,000 hectares of vine-growing land were rendered valueless?

A VIGNERON in Pomona, who was born and raised in France, claims to have recognized in the mysterious vine disease now raging in some vineyards in the southern portion of the State as the Mahlnew which once divested the vines Italy. He also suggests a remedy, which is nothing more than the remedy used for years in this State for eradicating peronospora and other leaf as well as most varieties of fungus diseases. It is a wash composed of two pounds of lime, one pound of blue stone, mixed with sixty gullous of water. If this remedy is effective for the new plague, it will be fortunate, but in view of the scientific tests already made by Professor Dowlen, it is doubtful whether the secret has yet been discovered. Many causes have been ascribed as the source of the plugue from presence of pepper trees to excassive irrigation. The most correct of any theory yet assigned seems to be that which suggests the presence of fungoids in the cellular tissue of the wood. Experiments are now being made with some vines in hot-houses at Los Angeles, which will doubtless throw more light on this important subject. As it stands to-day it is impossible to believe that a solution has been nrrived at in the use of the time-woru remedy suggested.

BONFORT'S Wine and Spirit Circular in a recent issue observes that Messra. Kohler & Frohling have just reasons for pride in the enormous quantity of wine that they have haudled during the year. Their receipts foot up over half a million gallons, or to be exact, 542,930 gallons. This is an increase over 1887 of some 40,000 gallons. Of brandy their receipts during the

#### THE VINE DISEASE.

#### Bettef That an Effective Remedy thas at Last Been Discovered.

The Pomonn Progress published a revisw of the experiments and labors that Grat Mirande, a widely known grape-grower in this locality, has been doing during the past two years in finding a cure for the strange disease of wine and raisin vinea that has ruined hundreds of acres of vineyards in Southern and Central Californis, and is now spreading more rapidly than ever. The Progress also publishes interviews with Mirande and the largest vineyardists in this part of Los Augeles county, and all agree that Mirande has certainly found a cure for the vine disease.

Mr. Mirande was a wine-grower in Southern France for years, and atl his relatives and ancestors there have been engaged in the business for over 130 years. From his relatives in France he learned that the same disease had ravaged thousands of acres of vineyards there until a preparation consisting of two pounds of bluestone, three pounds of slaked lime and fifty gallous of water was used. That cured the disease. Mr. Mirande has been quietly experimenting on diseased vines in this locality and he now annuances that by a system of spraying vines with this preparation with stronger or weaker parts as suited the season and the stage of the disease he has cured thousands of viues. In several viueyards viues which were fast dying a year ago are now healthier than at any time in five years.

He makes no secret of his cure, and scores of vineyardists come to his place daily to see what he has done. Some of the cures he has effected in vineyards here are wonderfully successful, and so much confidence is put in the new-found cure that many people who had resolved not to attempt any more wine or raisin growing are about to plant new vineyards. vineyardists have come to Pomona from Fresuo and Bakersfield to see for themselves how well Mirande's cure has operated, and how the preparation is mixed and sprayed upou the viues. Every one here believes that an effectual cure has at lust been found.

L. J. ROSE, of Los Augeles, has lately received a consignment of twenty-five skylarks from Europe, which he ordered five years ago. His agent has the greatest difficulty in securing the birds, which are said to be the only specimens in America. The birds are supposed to be the natural enemy of the scale bug. They will be let loose at once, except a few pairs which will be kept for breeding purposes.

THE LARGEST horse farm in the world to said to be thirteen miles from Cheyenne, Wy. Ter. It includes 120,000 acres, and requires 100 miles of wire-fencing to keep the animals in bounds, with sixty-five men to look after them. The horses, young to look after them. and old, number 5,000.

The Santa Clara Valley says: Mr. Geo. W. Ousley of the Willowa uses the sulphide of potassium wash to kill the Brown Scale that infests apricot and prune trees. He prepares it thus:

One pound sulphide of potassium, two pounds whale oil soap and sixteen gallons water. Heat the soap in the water till it dissolves; then place the sulphide into a perforated can, and suspend near the surface of the soap and water just so as to over it and it will soon dissolve. It will spray better if applied warm. The St. Luuia sulphide scema to be clean and good, while the imported article is reported as being dirty.

#### CALIFORNIA WINES.

#### Many Win High Esteem at the State Capital.

In response to an invitation of the President of the State Viticultural Commission Charles A. Wetmore, extended especially to the members of the Ways and Means Committee of the Assembly, a meeting was held last Wednesday evening in the large private dining-room of the Restaurant de France, at Sacramento, which proved an agreeable demonstration of the high attainment of viticultural enterprise in California. The object of the meeting was to show in a practical manner the great results that are being achieved in experimental vintages of the highest grades under the direction of the State Commission, and incidentally to discuss the importance of continuing the support of this institution with ample appropriations.

Among the vinegrowers present were C. A. Wetmore, of Livermore valley, President of the Commission: John L. Baird, of Irvington, member of the Board of Regents of the State University, and II, M. La Rue, whose vineyards are in Yola and Napa counties. Of the Ways and Means Committee there were present Assemblymen Shannahan, of Shasta, and Coombs of Napa. The other seats at the table were filled by Attorney General Johnson, Secretary of State Hendricks, State Controller Dunn, State Treasurer Herold, representatives of the press and others.

The dinner was served in an elegant manner, and full opportunity was given to show that with care and intelligence this State can, if the efforts of the Commission are fally seconded by private enterprise on a larger scale than has heretofore been tried in the past, furnish not only a great abundance of the ordinary wholesale table wines. but also the rare wines, such as the celebrated Rhenish, Sauterne, Bordeaux, Burgundies, Champagnes and Cognacs, prized by epicares everywhere. For several years the State Commission has been producing, collecting and preserving from grafted vines of the highest European types, small experimental vintages, which are now mostly ready for the bottle and fit for the critical examination of connoissents. collection from these samples of the State, has already been forwarded to be exhibited by the Agricultural Department at Washington at the Paris Exposition, and another will be ready to go in charge of the State Commissioners. It is confidently expected that these exhibits will attract much attention in Paris and be the means of bringing large accessions of capital, now much needed in developing our trade and in further improving our vineyards.

Although it has been couceded that California is a successful producer of ordinary sound stocks of merchantable wines, critical merchants and connoisseurs have persisted in believing that we could never equal the higher grades of wines which command high prices and a world's market. The State Commission proposes to dispel all akeptical opinions of the sort, and to place California as the peer, if not the auperior, among all wine-producing countries. Although the samples now ready in the Commissioner's ce'lar are yet rather young and have not had time to develop in bottle all these characteristic qualities, yet the showing made was sufficient to convince all, that the day of our promised complete soccess is not far distant. What the Commissioner has shown to be possible, their products, by extending commercial be in their favor there. This is only con- 13,000 tons.

has already brought excellent results, and quite considerable areas of vin yards are being devoted especially to the production of the rarest and most costly vintages

Though the agency of the Permanent Exhibit, now opened in San Francisco, the first small stocks of the choicest goods are being made known to the public, and their success is proved by the daily attendance of the most fastidious men of San Francisco, in the cafe which is leased to a firstclass restaurateur upon condition that only sold. The practical value of this work is shown also by the frequent visits of Eastern merchants who have hertofore doupted or great pessibilities.

Kate Field has undertaken for the Commission to arouse in Eastern cities the interest of the fashionable circles in Californin vintages, and to break down the popular pr judices in favor of foreign brands. which up to the present time have forced joubers, who huy from our wholesale dealrs our best wines at low prices, rainous to producers, to place them before the public under foreign lables. As soon as it is fashionable to use our best goods under California lables, our producers will participatin the great profits of the retailer. This mission has been so much noticed and criticised by the Eastern press, and Miss Field has been so severely discussed, that hundreds of thousands of people who never knew anything of California wines as presentable at fastidious tables, are now receiving their first impressions, and are being excited by cariosity to inquire for California goods.

This work, sanctioned by the State Government, is vastly important at this time when there are grave fears of over-production and consequent depreciation of land values throughout the State. Our vineyards are now capable of producing, in a favorable year, at least 30,000,000 gallons of wine; but growers have been much disconraged by low prices and the almost insurmountable obstacle of popular prejudice which restricts their markets and makes their noble enterprises unprofitable. The efforts of the commission receive the cordini support of at least 150,000 people of the State directly connected in one way or another with the industry, and who are struggling not only for their own existence. but also to enrich the owners of many millions of acres of land which will fall in value if it should be proved that the industry is financially a failure and not to be extended over greater creas.

Mr. Wetmore explained informally much of the working and purposes of the Commission, and spoke of the greater organization of vine-growers and the need of continued legislation to still further stimulate the work of this industry,

The following is the section of the Act approved February 26, 1885, which enlarged the powers of the Commission, and under which the permanent exhibit in San Francisco and Kate Field's mission are created

Section 1. The Board of State Viticaltural Commissioners shall, in addition to its duties already prescribed by law, adopt such measures as may be within its power, and in accordance with its best judgment, to advance the skill and increas; the technical knowledge of citizens of this State who are engaged in viticulture and vinicultore, by providing practical instruction to those requiring the same; also, to assist producers in finding profitable markets for and popular knowledge of the same throughont the United States and foreign countries by means of public addresses, circular, printed documents and personal efforts of duly authorized representatives and lectorers of the said Board; and also to pomote the general welfare of the people by distriboting and disseminating information and scientific instruction cone raing the rational uses and the dangers of abuses of fermented and alcohotic drinks, as well as also the methods of detecting and avoid ing adulterations and sparrous compounds

#### MORE ABOUT THE VINE DISEASE.

The following correspondence appears in the Los Angeles Reraid, supplementry to that which appeared in the last issue of the

Editor Herald: The subj ined letter from Mr. Robert McPhers . , . this county, speaks for itself. It is offered for publication as a justification of Mr. McPherson's statement of the existence of the grape disease at Fresno, and also to give such information to those people as may enable them to protect their vin yards. I have an all-abiding faith that b fore the vines come out in leaf again we can name remedies which will protect all vines not affected, and, possibly, save those which are not too far gone.

Respectfully yours,

J. DE BARTH SHORE.

P. S .- Last week's examination of canes sent to us from Santa Clara county, established the fact that they unfortunately have the same disease there, a fact which has been duly communicated to the Commission. J. D. B. S.

#### McPHERSON, January 31, 1888.

Mr. J. De Barth Shorb, San Gabriel, Cal. DEAR Sta:-- I have your favor of the 21st, and note that you disire me to state what I know of the existence of the mysterious vine trouble in Fresno. I will say in plain terms, I spent but one day among the vineyards at Fresno, but made as much of the time as I could. I drove to a number of vineyards and brought away specimens that showed the disease, as we have it very plainly. I not only found the leaf signs, but I also found caues that had dropped, the leaves and the cane still holding green, as in the early part of the season This latter condition is very common in vineyards where the disease is well advanced. I am not alone in my opinion that the disease is in Fresno, for a party from Orange quite early in the season, passing that country, made the statement that it existed at Fresno, Also Mr. Wm. Van Doren, a vineyardist in this valley, who was for a number of years our foreman, while foreman for Mr. Chas. Leslie at Fresno, last fall sent affected leaves home to his family, and these leaves were exam ined by a number in our valley, and by all the leaves were considered affected by the same disease as our own vines. I have it from others also. I met several partie, while I was in San Francisco and San Jose, and when I described the disease they were able to recognize the disease as existing in their midst, and that the result was more discernible last year that the year previous. Now, while our vineyards are very seriously affected, and without a remedy will soon be worthless, I am not going to say that the disease will surely cause the same destruction at Fresno as here. The climate may

jectare. I hope they may not be troubled mor- th n they now are. I am very sorry to see that the people there feel so tender on this sulp et. I only wish that some one had she wn me what this disease was about two years ago. Hoping that you and our friend Professor Dowling may find the remedy for all your trouble.

I am yours very truly, ROBERT MCPHERSON.

#### WHOTESALE MARKET.

Quotations kriven are for large lots to the whole sale trails. CALIF RNIA RAISINA.

Halves, Quarters and Eighths, 25, 50 and 75 cents higher respectively than whole box prices.

Lond B Lave	rs, choice p	er bor	8.	000	
	fancy			SHOUL SHOUL	2 25
Layers, per b	03			100	1 75
Loose Muscal	tels, commo	n, per bo	x 1	40g	1 501
11 21	choice.	2.0 41		612	1 75
44 45	fancy.	5+ 5		62	2 00
Unstemmed	" in sack	8, per 2.		43-4	δc
Stemmed	8.0 8.0			Sus	
Seedlers	88 88			4/4	
+6	" per 5	20-2. box		Stillet .	
" Sultanas,				Grat .	
1.	bleached	,			
	C135	ED GRAPE	4		

Grapes, Muscat, 25, 2c, 8 1 40cd 1 50, Galls, 4 50c 3-L tins 2 25-g 2 45

.....3 2314 Sun Dried Grapes, Stemless, sks, .....24 4 3 Unsternmed, sks,

#### Sugar Quotations.

California Sugar R. finery price list dated January 30th; Circle A. Pat Cube, 634c Circle A Crushed, 63, c: Fine Crushed, 63, c: Extra Powdered, 63,e; Dry Granulated, 63 ac; Confectioners' Circle A, 61, e; Extra C, 514c; Golden C, 4 c; Star Drips Syrap, in bbls, 171/e; hf do, 20c; 5-gall kegs 25c; 1 gall tins, 35c per gallon.

Price list of the American Sugar Refinery lated January 30th: Extra Fine Cube, in bbls, 6 %e; Circle A. Crashed, 6%c; Fine Crushed, 62, c; Powdered, 62, c; Extra Fine Powdered, 7c: Dry Grandlated, XX 6%c. Dry Granulated, 63 c; Confectioners' Cirele A, 61,e; Extra C, 51,e; Golden C, 47;c, American Golden Syrup, in bbls, 20c per

#### GROW MORE FIGS.

The Oraville Register, furnishes the following information relative to the culture of the fig: " The tree does well in any soil, black adobe, red clay, sandy loam, or even in a bed of gravel. That no insect pests trouble fruit or tree. That will make the fig a favorite fruit to grow with many who have become discouraged in fighting fruit pests. There are no off years and no light crops. The fig is as regular as the seasons in their course, and year after year the tree is loaded with its luscious burden. There are many varieties, one hundred and fifty at least, and only a few kinds have as yet been tested in this State. They are rapid growers and the third year produce a paying erop. In many instances a fair crop can be btained the second summer. California is the only State in the Union where this fruit grows to perfection, and there is no fear of over-production. There is a great difference in the hardihood of figs about frost. The White Adriatic is the most tender of all, Besides drying, the fig can be preserved in a variety of ways as a healthy and favorite food. It bears an enormous crop and contiques to live and bear for a century. But little irrigation is required to start the young trees, and no water is needed after the trees are two or three years old.

The yield of grapes from the National vineyard this season has amounted to KRUG CHARLES.

Erug Station, St. Helena, Napa Co., Cal. Producer of fine Wines and Brandies.



7 & 19 FREMONT ST., SAN FRANCISCO

HENRY WAAS, Wood Turner.



-MANUFACTURER OF-

Wooden Bungs, Taps, Plugs, etc., Oak Bungs, Soft and Hard Wine Plugs, Soft and Hard Tap Plugs, Wine Samplers, Bung Starters, etc.

720 MINNA ST., bet. Eighth and Ninth, S. F [Established Since 1856,

#### RESISTANT VINES.

A CHOICE LOT OF

#### RIPARIA CUTTINGS.

APPLY TO

H. W. CRABB:

OAKVILLE NAPA CO., CAL.

#### CLIMAX SPRAY PUMPS.

Best and highest en lorsed Spray Pumps on sale. Unequalled for durability, convenience, and ease of working. Send for circulars and prices of different

Pacific Cyclone Spray Tips, Ctimax Bamboo Extensions. MANUFACTURED ONLY SY

Cal. Fire Appara us M'f'g Company, 18 California Street, San Francisco. CUT THIS OUT.

### FARM FOR SALE

Two hundred acres in Sonoma County ten minutes drive from railroad station Forty acres planted in the finest variety of vines. The balance rich river bottom, and rolling land capable of the highest cultivation. Several never failing springs and plenty of oak and redwood timber on the property. Good house, large barn, and ont buildings. Scenery, climate and roads unexcelled. Good fishing and hunting in the neighborhood all the year round. One of the most elegant and profitable suborhan homes in Northern California,

Inquire of "W. H.," office of the San Francisco MERCHANT.

#### BUSINESS COLLEGE!

24 Post St., Snu Francisco.

FOR SEVENTY-FIVE DOLLARS THIS COLLEGE structs in Shorthand, Typewriting, Bookkeeplog, Telegraphy, Penmanship, Drawing, all the English Branches, and Everything pertaining to ousiness, for six full months. We have sixteen teachers, and give individual instruction to all our rupils. Our school has its graduates in every part of the State,

W Send for Circular.

E. P. HEALD, President

#### HERRMANN & CO.. HOP MERCHANTS.

Importers and Dealers in

CORKS, BREWERS' AND BOTTLERS' SUPPLIES, SODA WATER AND WINE DEALERS' MATERIALS.

ALEX. FRIES' & BROS. COGNAC OILS ESSENCES AND FLAVORS.

313 SACRAMENTO ST.

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OF ST. LOUIS.

### W. G. Richardson,

PACIFIC COAST MANAGER.

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SAN FRANCISCO, - - CALIFORNIA.

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## Kohler & Frohling, PIONEER WINE HOUSE.

Established 1854.

Growers of and Dealers tu

## CALIFORNIA WINES & BRANDIES

VINEYARDS IN

LOS ANGELES COUNTY. SONOMA COUNTY, MERCED Co. AND FRESNO Co.

#### 626 MONTCOMERY ST., San Francisco.

41-45 Broadway St.,

New York.

#### WHITE ADRIATIC FIG TREES AND CUTTINGS,

FRESHO GROWN TAHITI CRANGE SEEDLINGS,

CABERNET FRANC.
CABERNET SALVIGNON
MATARO and RIPARI'A CABIGNANE,
CUTTINGS \$5 per Thousand
GRAPE ROOTS AT REASONABLE BATES.

M. DENICKE, - - FRESNO, CAL.

Packed Figs for sale at Tillman & Bendel, Clay and Battery Sta., S. F.

The following is taken from a letter written to Mr. Denicke, by John Rock the wellknown norseryman and horticoltorist of San Jose:

M. Denicke, Fresno: DEAR SIB-The figs sent to me to San Jose are very fine, and nothing has yet been produced in California to come any way near them. \* \* Enclused are orders for twelve additional cases, Very truly, JOHN ROCK,

San Jose, January 7, 1889.

FRUIT AND NUT TREES (Large Assortment);

#### -GRAPE VINES -

RESISTANT GRALE VINE STOCK, (Very Finel:

Ornamental Trees, Olive Trees, ORANGE TREES,

AND GENERAL NURSELY STOCK.

All Univergated and Free from Disease. Th

#### LEONARD COATES,

NAPA (ITY, - - CALIFORNIA.

#### THE RISDON

#### IRON AND LOCOMOTIVE WORKS

Cor. Beale & Howard Sts., S. F.

W. H. TAYLOR, Pres t.

R. S. MOORE, Supt

#### BUILDERS OF STEAM MACHINERY

IN ALL ITS BRANCHES

Steamboat Steamshi Land Engines and BOILERS, High Pressure or Compound.

STEAM VESSELS of all kinds built complete, with Hulls of Wood, Iron or Composite. STEAM BOILERS. Particular attention given to the quality of the material and workmanship, and none but first-class work produced.

SUGAR MILLS AND SUGAR-MAKING MACHINERY

made after the most approved plans. Also, all Boiler Iron Work connected therewith. PUMPS. Direct Acting Pumps, for irrigation or City Water Works purposes, built with the celebrated Davy Valve Motion, superior to any other Pump

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### NITROGENOUS \* SUPERPHOSPHATES.

OF THE-

Mexican Phosphate & Sulphur Co.

A Genuine Fertilizer for Vines, Trees, Cereals, &c.

This valuable mapure has received the highest testimonials in Northern Europe, where it has been used for the past two years, and is now offered to the Pacific Coast Grower with perfect confidence in its

Full particulars can be had at the office of the undersigned, and pamphlets mailed to address on application.

For Sale by

## M. Newhall & Co.

SAN FRANCISCO SAVINGS UNION, 532 California atreet, corner Webb.

For the half year ending with 31st of December, 1858, a dividend has been dec'ared at the rate of five (5) per cent per annum on term deposits, and four and one-sixth (4 1-6) per cent per annum on ordi nary deposits, free of taxes, payable on and after Wednesday, January 2, 1889.

LOVELL WHITE, Cashier,

#### The German Savings and Loan Society 526 California Street.

DIVIDEND NOTICE.

For the half-year ending December 31, 1888, a dividend has been declared at the rate of five and one-tenth (5 1-10) per cent per snown on Term Deposits, and four and one-fourth (44<sub>d</sub>) per cent per annum on Ordinary Deposits. Payable on and after WEDNESDAY, January 2, 1889

GEO, TOURNY, Secretary.

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Open for Ladies and Gentlemen daily from 9 A. M. till 10 P. M. Admission 25 Cts. Catalogue Free. Go and learn how to avoid disease and how wonderfully you are made. Consultation and treatment personally or by letter on weakness and all diseases of men. Private office, 211 Geary street. Send forbook.



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Bookkeeping, Shorthand, Type Writing, Penmanship, English Branches, Telegraphy, Higher Mathematics, Modern Languages, Etc., Etc.

Life Scholarship for Complete Business Course, Time Unlimited - \$75.

No Vacations. Day and Evening Sessions. Ladies admitted into all departments. For further particulars apply at the College, or address

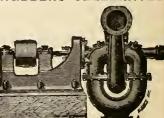
T. A. ROBINSON, M. A., President.

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SOLE AGENTS FOR

#### WEBBERS CELEBRATED



#### Pumps, Irrigating

We also carry in stock the largest line of

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Consisting of Wood and Iron Working Machinery. Pumps of Every Description.

#### ENGINES AND BOILERS A SPECIALTY.

ACENTS,
Also, Gregory's Celebrated Spraying
Pump, for orchards. The only one ever recommended by the State Horticultural Society

C. S. HALEY'S Secretary.

#### OUR NATIVE WINE SHIPMENTS SEA.

PER O. S. S. Co's STEAMER AUS	STRALIA	
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MARKS,	SHIPPER4.	PACALGES AND CONTENTS.	GALLONE	VALUA
W M & Co	Kohler & Van Bergen	7 barrels Wine	350	8:24
+1	**	2 packages Wine	66	
19	**	ab kega Wine	425	3
**	**	56 kegs Wine		3
y T L			34	
ld	A Haraszthy & Co	. 7 barre a Wine	342	2
11		125 kegs Wine	625	5
**		32 kegs Wine	320	2
		10 kegs Wine		1
A S & Co	C Schilling & Co .	3 casks Wine	67	7
11		2 tarrels Wine		2
	1	I half-harrel Wine	200	an an
GC			250	1
S L	Heogende vineyara -	5 cases Wine.	15	- 1
СР	Caldlana Bonus & C	officases Wine		
H & Co			800	4
14	Konter & Floring	2 half-casks Wine.		-
11		2 casks Wine	133	
1 8 N Co	S Foster & Co	10 cases Wine		
o mark				31
C P				_
4.		60 kegs Wine	1,220	1.0
84		leO kegs Wine	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	

#### PER P. M. S S. CO'S STEAMER SAN JOSE, FEB. 2, 1889.

#### TO NEW YORK.

A Py Lenormand 1.ros 100 barrels Wine	5,068	81,579
Rev T M D 1 barrel Wine		20
i. S Dresel & Co 25 barrels Wine		500
J B M A Brun & Co G barrels Wine	300	90
K&F		836
N.C. G.M.jhavaeca 100 barrels Wine	[ 5,01u]	1,202
JS Wolter Bros & Co I half barrels Wine	110	92
A V Co C Schilling & Co 50 barrels Wine	2,367	830
D in diamond	2,358	1,179
J P Frapoll, Berges & Co. 16 barrels Wine	762	213
G J Gundlach & Co 38 cases Wine		228
B D & Co B Drey fus	3,642	1,652
Total amount of Wine, 38 cases and	22,146	\$8,424

#### TO CENTRAL AMERICA.

8 K.	Guatemala	Catton Bell & Co F cases Wine	8131
		Montealegre & Co I keg Wine 20	13
JGE	3, Punta Arenas	stockton Milling Co Hi kegs Wine	
	**	" [16 cases Wine	172
	Total amount of Wine,	7 cases and 163	83.6

#### TO MEXICO.

J P, Mazitian W Loaiza 2 casks Wine	125	\$15
A H & Co, Acapales   Urrucla & Urioste   20 cases Wine		80
Total amount of Wine, 20 cases and	125	\$155

#### TO GERMANY.

H H, Haroburg B Dreyfus	& Co 1 barrel	Wine	511	827

#### MISCELLANEOUS SHIPMENTS

DESTINATION.	VESSEL.	R10.	GALLONS,	VALUA.
Tahiti	City of Papeete	Barkenfine	700	8271
Kaholin	Newhern	Brig	365 30	149 25
Japan	Umatilla	Steamer	378	350 120
	W H DimondWalla Walla		2,800 1,915	2 367 1,091
Total	• • • • • • • • • • • • • • • • • • • •		6,404	<b>\$4,308</b>
Total shipments by Par Total Miscellaneous shi	ama steamers		8 gallens	\$8,920 9,150

#### ANCIENT TABLE CUSTOMS

It was one of the ancient customs, says poet of the same name-says.

"There the well-dressed guests recline On couches rich with ivory feet; And on their purple cushions dine,

Which rich Sardiuian carpets meet," And Anaxandrides:

"Open the supper rooms, and sweep the house

couch with silver feet, with an accompany- lancy.

ing message saying: "I send you, O Timagoras, the couch and coverlets and a servaut to arrange them, as this is a matter Table Talk, to recline at the feast; and the the Greeks know not of." It is related of banqueting rooms, gorgeously carpeted, this same Gretan that he had so completely were fitted up with lexurious couches, secured the lavor of the Persian king, that Thus Plato-not the philosopher, but a the latter invited him to a banquet of the royal family, an honor never before paid to any Greek.

Here is another custom of the Ancients, and one in which we can see the origin of our menu cards. Each guest, as soon as our menu cards. Each guest, as soon as he had settled upon his couch, was handed a paper upon which was written the name of every article to be served at the feast and in the order in which it was to be And spread the conches fair."

Heraclides says that the Persiaus were the first who engaged artistic experts especially to arrange these conches; and that no one occasion Artaxerxea presented his friend Timagoras, the Cretan, with a tent of great size and beauty, and a couch with silver feet, with an accompany-

## Description of the Blueberry.

The Blueberry is a valuable fruit, and is a reliable fruit to grow in our northern states where the more tender varieties of fruits winter-kill. It is perfectly heardy, beving stood 40 degrees below zero without showing any injury to the most tender buds. It ripens in this latitude about the 1st of July, and is beane in clusters like currants; shape, round; reddish purple at first, but becomes a bluish black when fully ripened. The flavor is equal to the raspherry, a very mild, rich sub-acid, pronounced by most people delicions. It may be served with sugar and cream or cooked sance, and is aplendid for winter use. The plant seems to flourish in all soils, and is a prolific bearer. It grows very stocky and makes a nice he dage. The shinning dark green leaves and the blue fruit making a pleasing contrast. The demand for the fruit is great, and usually brings 15 ceuts per quart. They commence bearing the first year after setting out, and yields a full crop the second and third year after setting out. They are propagated from suckers and root cuttings. The plant is about the height and size of the currant bush, and very stocky, holding the fruit well up from the ground. Plants should be set in the full and spring, in rows two or three feet apart, and five or six feet between the rnws, making a perfect hedge, and no grass or weeds should be allowed to grow between rows.

PRICE LIST:

1 Dozen Plants by mail, 60 cents. 2 Dozen Plants by mail, \$1.00

1,000 Plants by Express, \$2.50 1,000 Plants by ex. or freight \$15.00

How to seen money:—I would prefer to have money sent by American Express urder, all sums of \$5.00 cmd under, cost only 5 cents, and if order is lost, money will be promptly refunded to scuder. If not convenient to obtain express order, money can be sent by registered letter or jost effice money order or postal note, drawn on Portland, Mich. Postage stamps will not be accepted only from our customers that cannot obtain an express order—only those of one cent denomination wanted.

Plants are carefully packed in damp moss and delivered to express or freight office, for which I make no extra charge. Address

DELOS STAPLES, Portland, louis Co., Mirh.

INCORPORATED 1884.

460 ACHES

## TREES AND PLANTS. CALIFORNIA NURSERY CO.,

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#### ICED CHAMPAGNE.

Among Mr. Webber's miscellaneous remarks, he inveighs, says the Saturday Review, as do most authorities nowadays, against the once universal practice of icing champague. The coud montien, thought just in the main, ought to be made with a distingno. To ice dry champagne, such as has long been fashionable, is barbarous enough, but it is by no means so certain that to ice sweet champagne is such an ill thing. On the contrary, the icing takes off tile sweetness to a certain extent and reveals instead of obscuring the flavor. "Dry champagne coo!, sweet champagne cold" is perhaps the best rule.

On another point-the poss bility of wine being affected by the bottle-there is a long quotation from M. Peligot which is worth reading. Everybody recogniz s " corked " wine, but it seems not at all im, probable that "bottled" wine may bear a double sense likewise. Certainly there is no known product which differs so extraordinarily from itself as wine, nor any which i. so sousi ive to reag uts of all sorts. Mr. Webber's method of s.rving out claret -not decenting the wine at all but letting it stay forty-eight hours upright in an even temperature, than ranging a sufficient number of glasses in a row and filling them all without raising the bottle from the horizontal to the upwright state-is, uo doubt, excellent, if you have a sufficient number of compotators. But it is rather clamsy in appearance, and necessitates the sacrifice of that "pushing the bottle," which is n cheerful and agreeable ceremony. Besides, a good jug full of good claret is a very pret ty thing; yet we fully grant that no method of preventing the admixture of sediment with any large quantity of wine can be hit upou so certain as this of, so to speak, d cautiog it straight into glasses, and we farther agree with Mr. Webber that "thfiner the wine the more acrid the deposit," It is quite surprising to any one who tries for the first time how positively musty the dregs of a really good bottle of claret are while the dregs of port, though unpleasing to the eye and disagreeable from the mixture of solid and liquid, often suffer little in flavor. We feel considerable doubt about Mr. Webber's statement that "pure wine if dropped on the tablecloth will not stain it in the least." If it be so, we can only say that there must be uncommonly poor wine in the world.

#### GROWTH OF THE COUNTRY.

The present ratio of growth in this country exceeds a million of population annually, The Philadelphia Record has unde an elaborata table showing, among other things, that the actual increase of population for the whole country in eight years was 10,396,503. This result is reached by finding that the total vote cast at the last Presidental election was 11,310. The increase over the vote of 1550 was 2,136,090, If then the vote at the recent election bore the same relation to the total population as the vote of 1880, it would follow that the figures here set down as the increase of eight years would be approximately correct, and that the total population of the United States would be 5).767.813. In round numbers, this population is now 60,000,000, and it is probable that the ceusus of 1500 will increase this estimate by something more than one million.

864,964; and in 1888 au apparent population of 1,299,428. According to this showing, there has b en an annual increase of population during the last eight years in this State of 51.398. This ratio will be increas d probably during the next d cade. With the larger population as a basis, the natural increase, added to that of immigration, would bring the population of the State in ten y ars to about 2,000,000. The annual gain of population for the whole country is, in round numbers, 1,300,000. Even if the aggregate animal gain should be no larger during the next d cade, at the end of that period, or say in 1900, the popntation of the United States would not fall much short of 75,000,000.

There are two Stat's whose growth has ben usurly alike. These are Minnesota and California. Thus the population of these States in 1880 and eight years later was set down as follows:

1880.	1888.
Minnesot 1 75 1,763	1 250,217
Ca ifernia 861,961	1,229,428

#### SAVING BONES FOR MANCRE.

On this subject T. D. Baird writes in the Prairie Farmer as follows:

"There are but few farms which have not more or less bones, both old and new, lying around, that could be brought into a state of available plant food with little trouble. Many farmers will not save the bones, from an aversion too taking hold of them, but the man that is to nice to take hold of lones, especially when he can make such valuable use of them, will not make much of a figure at farming. When beeves and hogs are killed, it is not much more trouble to save the waste bones than to let them lie, giving the premises an unsightly appearance. It is also as easy to save the bones from the table as it is to throw them around the yard.

Let the farmer carefully collect all these bones, and when winter comes and he is burning good wood, put into boxes or barrels a layer of ashes and a layer of bones: then another layer of ashes and then bones and so on until the vessels are nearly full, Then fill with ashes, putting twice as much ashes as bones. Now keep this mixture wet with somp-suds, but not enough to leach through, nor suff r it to freez , as the proc ss will stop while froz u. Now through the winter save also a hopper of good ashes in the same way as for making soup.

When spring comes, and the bones are not dissolved sufficiently, put them into a large kettle filled with lye from the ashes in the hopper, and boil them until the lye cuts them up. When the process is done, mix with soil to make it better to handle. To dissolve bones in sulphuric acid is much the speediest way, but with this greater care must be observed, as the acid is very corrosive. While dissolving in ashes is a slow process, it is simple and requires no great care. While the farmer is about his farm work, he is thus making a fertiliz r that is of great value. Moreover, the mixture of bone and ashes is more valuable as a manure.

#### ANTIQUITY OF CHEESE.

Cheese and curdling milk are mentioned in the Book of Joh. David was sent by his tather, Jesse, to carry ten cheeses to the camp, and to see how his brethren fared. "Cheese of kine" formed part of the sup-

cheese form part of the ample stores found by Ulysses in the cave of Cyclop Polyphemns. Euripides, Theocritus, and the early poets mention cheese. Thomas Coghao in The Haven of Health," 1584, says: "What cheese is well mad or otherwise may partly be perceived by an old Latin versa translated thus: 'Cheese should be white as snow is, nor full of eyes as Argos was, nor full of spots as Lazarus, nor old as Mathu elah was, nor rough as Essau was.' " Master Tusser, in his book of Husbandere, addeth, "other properties also of cheese well made which whose listeth may reade Of this sort, for the most part, is that which is made about Bamburie in Oxfordshire; for of all the cheese (in my judgment) it is the best, though some prefet Cheshire cheese, made about Nantwich, and others commend more the cheese of other counties, but Bamburie cheese shall go for my money, for therein (if it be of the best sort) you shall neither taste the renet or salt, which be two speciall proper ties of goode cheese. Now who is so de sirous to cate cheese, must ente it after other mente, and in a little quantity. A penny-weight according to the old saying. is enough; for being thus used it bringeth two commodities-first it strengtheneth a weake stomache; secondly, it maketh other meates descend into the chief place of digestion; that is the bosum of the stomache, which is approved in 'Schola Salerni. But old and hard cheese is altogether disallowed, and reckoned among those ten manner of meates which engender melancholy, and bee unwholesome for sick folks, as appeareth before in the chapter of Bacle." - Analyst.

#### ARTESIAN WELLS AS MOTIVE POWER.

The discharge of water from artesiau wells has for many years been employed us a motive power in France. In the city of Tours there is an artesian well which drives a dydraulic wheel 7 meters in diameter, and works the machinery of a silk factory. At Grenelle the heat of the water issning from a deep well is utilized in warming buildings. A project is now before a Commission of the Municipal Conneil of Paris, having for its aim the utilization of the nower obtainable from the new artesian well in the Prace Herbert, at La Chapelle, There are now three important artesian wells in the Paris basin; that of Grenelle heing the oldest, and that at Passy the most Productive. The new La Chapelle well is, however, situated in the industrial quarter of the 18th arrondissement, and is has will adapted for the experiment of producing motive power. Besides these there are a number of private artesian wells in Paris belonging to manufacturers. The La Chapelle well was finished in March last, having been begun twenty-four years ago. It reaches a depth of 720 in sters and the water left to its If, rises to a height of 35 meters above the mouth. It furnishes 6000 cubic maters of water in two nty-four hours. The proposal is to utilize the power turnished by the well in generating and distribating electricity for lighting and motive purposes. One object mintion d is the lighting of the park of the Bittes Chaumont, which is situated u ar the well, Before now electricity has been g nerated in this manner. At Ponce de Leon, in Florida, there is a hotel having a powerful artesian well, which drives a turbine-wheel plies of David's army at Mahanaim during and dynamo, thus generating the current

California had in 1880, a population of the rebellion of Absalom. Homer makes necessary to light the building and its At Yankton, in Dakota, there is a flowing well which drives the dynamis of an electric light company. The well is 600 feet deep, and the water on issuing from it is conducted to a reservoir place l 39 feet above the turbine which actual a the dynamos.

#### PEANTS AND PIANOS.

"This is the time of the year when we are driven nearly crazy with work," said a tired-looking piano-toner to a New York Sun r port r. "Everybody wants his pi mo tuned for Christmas, and most of them forget about it till the last moment, And besides being the busiest season, we have been having the most trying weather. These cold, day days throw pianos out of tune every time, and besides that the sounding-boards are beginning to split. It always surprises me what poor care most people take of their pianos. Let a man buy on expensive watch, and he'll treat it as though it were a live thing, but people don't seem to realize what a delicate pieco of mechanism a good piano is. Pianos are not affected so much by heat or cold as they are by dryness and dampuess, Of course, if you stick one end of a piano up against a stove, or a heater, or a register, and let the other and come near a cold leaky window, it'll raise Nad with it, but most people are on to that. The trouble is, the piano is too dry.

"You know the sounding-board-the life of a pinno-is forced into the case when it's made so tightly that it bulges up in the center, or has a "belly," as we call it, on the same principle as a violia. The wood is supposed to be as dry as possible, but, of course, it contains some moisture, and gathers a lot more on damp days and in handling. Now, when you put a piauo in an overheated, dry room, all this incisture is dried out, and the board loses its "belly," and gets flibby, and finally cracks. Even if it doesn't crack, the time loses its resonance and grows thu and truly, and the felt cloth and leather us.d in the action dry up, and the whole machine rattles, and everybody kicks.

"How can you prevent it? Easily enough. Keep a growing plant in the room, and so long as your plant thrives your plane ought to, or else there's something wrong with it. Just try it, and see how much more water you'll have to pour in the flower-pot in the room where your piano is than in any oth r room. Some people keep a huge vase or uru with a a pping-wet sponge in it near or under the puno, and keep it moist ned, just as a cigar dealer keeps his stock. They keep this up all tha time the fires are ou."

A DISCHIMINATING SOLON. - A Spanish magistrate, shocked and exisperated by a repeat d food adulteration, has issu d a proclamation, aftens with righteous wrath, that "all wines, groceries and provisions which, upon analysis, are proved to be injurious to health, will be couliscated forthwith and distributed to the different charitable institutions."

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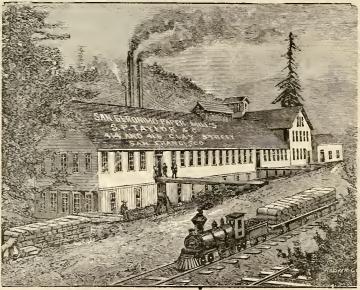
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CELTIVATION AND PRODUCTION OF THE VINE, WITH CHARACTER-ISTICS OF WINES.

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[Continued from page 146.]

SICILY

The wine production of Sicily has from very ancient times been of great importance. Before the appearance of the oidinm, Sicily, besides supplying wines for home consumption, had a constant surplus production, which was partially exported as must or young wines, to the seaport towns of Italy or to foreign countries, partially stored for some time, and then exported from the island by certain mercantile establishm ints in Marsala, or distilled.

The greater demand and higher prices obtained for the wines have here, as in other an extensive culture already existed, and Italian r gions, greatly contributed to plantations have been extended to the plains develop the vine culture. But the special facilities which enable the Sicilians and Sardinians to produce win s at a smaller cost than in any other part of Italy, is doubtless a very great reason for this development. The small rain fall during the summer season invigorates the branches ao quickly as to make it easy to grow the vine without any kind of supports.

Although, where manure is given, the is not necessary; the greater portion of the vinea producing abandantly, notwithstandnorthern regions the vine is principally cultivated on the hills and declivities, in are lower than in any oth r Italian region. Sierly, with the exception of the districts around Mount Etna, the most extensive ture to such simplicity as to render it inds- | Frappato. Syscuse possesses large quan-

Sicily to cultivate the vines very near each other over an extensive area, giving to each vine from 1.40 to 1.80 square metres, and requiring very lew workmen.

Although throughout the whole island, with the exception of a few summits over 1,000 metres high, the cultivation of the vine is easy, the districts which constantly produce large quantities of wives for exportation from the island seem to be rather limited.

The larg st crops are obtain d in some parts of the province of Messins, which export their wines from Milazzo or Messina, in the neighborhood of Mount Etua, and in that called Terreforti, near Catania and Riposto: in some communes which produce the wines known to the trade as Pachino and Scoglietti; and in some districts of the provinces of Trapani and Palermo.

There are also many smaller centres which produce five and common qualities where, however, the quality is restricted to that required for local consumption.

In recent years the vines have been largely multiplied in those districts where and mountains, where, but a few years ago none existed; but from this it must not be understood that there do not exist in Sicily large tracts of land without vines. However, Sicily is decidedly the Italian region which can and does give constantly the largest quantities of wine for exportation.

While in the North and in a portion of Central Italy the vines are to a large extent cultivated on areas which are scantily production increases, in Sicily this practice | watered, in Sicily, the natural conditions are so favorable that, although only a small portion of the territory adapted for it is ing that they have mever received manure under cultivation, a large surplus over since very remote times. While in the what is consumed is produced every year, and this is the reason why prices in Sicily

Sicily is also characterised by great uniformity in the style of its wines, which is vineyards are in the plains, where it is pos- favored by the restricted number of varisible to make a great saving in the expenses eti s grown; very extensive districts culti by substituting animal for human labor in vating only one variety of grape. For tilling the ground. Finally, the climate instance, at Milazzo, the Nocera variety is being very mild, permits of a large part of exclusively cultivat d; in the region of the work of the vineyards being done Monut Etna the Norello Mascal se is during the winter and spring, thus again almost exclusively grown; at Pachico the saving very considerable expense. These Calabrese and Nero d'Avola vari ties; advantages all tend to reduce the vine cul- near Vittoria, Comiso, and Scoglitti, the

cultivate the Malvasia, and the Island of Pantellaria the Zibibbo. The Sicilian vineyards are almost entirely exempt from the ravages of hailstorms, and eryptogamic parasites; on the other hand, a small amount of injury is caused in the spring by frost, and in the summer by aridity. But the production of Sicilian vineyards, accord ing to an average extending over a large number of years and for large districts, is the highest of any in Italy,

The Phylloxera has for several years past appeared in Sicily, and naturally it has extended. To prevent or limit its ravages, the usual remedies have been employed, or the native vines have been grafted on to American stocks, which resist the insect. But, notwithstanding the Phylloxera, there has been until now no decrease in the production; nay, in many localities the surplus production is now greater than in past years, owing to the extension of

The preparation of wine has not been developed in Sicily at the same rate as the production of grapes. With the exception of the large establishments, who prepare with great ability and care the Marsala wine, the great-st portion of the production of the island is sold as young wine during the winter season. Generally the grapes are fermented in palmento or cansle, which is a kind of a square brick vat in which the grapes are exposed too much to the air and not sufficiently preserved from the atmosph re, a system which permits the wine to take up during the fermentation the germs of future changes.

The dispense or cellars on a level with the ground, generally very high and not well protected from atmospheric changes, if they are useful for very strong wines. present several inconveniences for the lighter qualities. As it is impossible to regulate the temperature and ventilation well, the fermentation is not complete, and therefore the wines remain sweet with a small percentage of alcohol, and do not keep well. The hot and variable summer season is dangerous for those wines which have not been previously sold,

These and other difficulties have origiinted in Sicily the practice of introducing gypsum into the wines, a practice which is u r largely adopted in the southern debe understood that the gypsum quickly and full bodied wines.

pendent of any other; and it is possible in tities of Moscato vines; the Lipari islands clarifies the wine and at the same time preserves it from turning sour because when the gypsum is dissolved in the wine it forms sulpharate of potash -the potash being furnished by the wine-which resists much more than the ordinary tartrate of potash. But, when the quantity of gypsum in the wine exceeds 2 per mille, it is considered prejudical to health, and for some years past an increasing opposition has been going on against treating wine in this The most intelligent growers manner. now understand that the employment of gypsum is unnecessary.

In cases where it is desirons to incresse the acidity in the must and wines, it has been found most advisable to add small quantities of pure tartaric acid, a material which is obtained from the lees. The question of adding gypsum to wines is now being determined in a very satisfactory The exporters are paying much higher prices for wines which have not been submitted to this treatment, and in this manner growers are remanerated for the extra attention and care with which they prepare their wines,

In the provinces of Messina and Palermo, it is not nunsual to fortify new wines with a small addition of concentrated must to enable the wines to keep under all circumstances, but this practice also is disappearing as the system of wine making improves,

Although Sicilian wines are characterised by a high degree of alcoholic strength, the island produces some good table wines, and to this style the blending and mixing wines may easily be reduced.

Sicily possesses a much higher temperature than the provinces of the Peninsula, especially in the winter season; yet in the aummer season it is often the reverse, and it is by no in ans rare for rice to ripen sooner in Lombardy, than in Sicily.

The Sicilian district which produces the largest quantity of table win s is that around Mount Etna, where the vine is cultivated up to 1,000 metres above the ses level. The wines called in that country Bosco, are certainly not inferior to the good wines of the more northern countries. These wines are exported in lang quantities to Riposto, whither many other blending wines are conveyed; some are also taken to Catania, which is the market for the Terr partments of France and Spain. It must forti and Piana winas, both more alcoholic

To Messina many table wines are also the Forzati, Passiti and Natalini wines conveyed, the most uoted being those of Faro, which may be considered as one of the best table wines of Sicily.

Milazzo and Barcellona produce blending wines only

In the province of Syracuse, considering only the wines exported from the island, we must point out two principal districts-the district of Note with the town of Pachino, an immense centre of production, with the port of Marzamemi, and the commuues of Vittoria, Comiso, Chiaramonte, and Biscari, the wines of which. shipped from Vittoria-Scoglitti, under the name of Scoglitti, are well known, especally in the sea-board towns. The blending and mixing wines are exported from the district of Modica.

While in the eastern provinces of Sicily red wines are most abundant, in the west the white predominate. The provinces of Caltanisetta and Girgenti export only very small quantities, while the province of Trapani produces the universally renowned Marsala, of different brands and styles, the Marsaletta and the Marsala vergine.

The oldest establishments are to be found in the city and port of Marsala, but we must mention that the establishments of Trapani, Maazara del Vallo and Castelbvetrano are daily increasing in importance. The establishments of Trapani have sometimes been compelled to purchase their white wines in other Sicilian provinces. This fact has eucouraged merchants to establish factories in other parts of Sicily. for the preparation of the commonest varieties of Marsala wine. This is in foreign countries the best known Italian wine.

Besides Marsala, the eastern portion of Sicily supplies the trade with a considerable quantity of whits, wines, which are exported chiefly from Castellamare del Golfo and Palermo. Red wines have also now commenced to be produced here on an important scale. Some of them are produced at a considerable height on the mountains, and possess the character of table wines.

The common Sicilian wines, when properly prepared and stored during their first year develop an agreeable bouquet, some times even excessive. Now that consumers in central and northern Europe prefer robust wines, it would be a great convenience if the Sicilians established depots where the wine could be made in large quantities and stored for the purpose of supplying a uniform style, and waiting alwaya until they were completely matured before aelling them.

The common Sicilian wines are principally exported to Naples, Rome, Leghorn, Genoa, Marseilles, Cette and other French ports, where they are mixed with other wines and consumed by the lowest class of people. But these wines possessing as they do such intrinsically good qualities are worthy of better treatment, and might easily be transformed into fine and medium table wines, and as such they would be highly appreciated by consumers.

Sicily produces some special wines of a very valuable kind, of which, however, the production is on a very small scale. The Muscato of Syracuso, when it is well made, represents all that can be desired by the most exacting palate, and it comperes advantageously with the most celebrated Muscatos produced elsewhere.

The Malvasie of Lipari, the dry and choice Albanelli, the Naccarelle, the Vernaccie, the Calabresi are far superior to all which were formerly prepared in many provinces of the Peniosula, and which are still prepared at great expense by a few proprietors.

Some one has also commenced in Sicily the preparation of liquor wines possessing the aroma of apricots, mandarins, oranges, etc. These are specialities which are not consumed at the place of production, but are appreciated and well paid for in the northern countries, where it is customary to drink iced and warmed wines with special infusions.

Sicily also produces good table grapes which are easily transported.

The people on the Island of Pantellaria which is nearer Africa than Sicily, transform all their productions of the Zibibbo variety into dried grapes, which are exported chiefly to Marsala, Patermo and Naples, whence they are distributed over the whole globe. This island also grows grapes which ripen early in June and July. The Zibibbo of Palermo is a celebrated table grape, which is largely exported.

The distillery of Baron Spitaleri at Solicchiats, iu Catania, supplies excellent Cognacs; other examples of the preparation of fine Eau de Vie or Cognao may be found at the establishment of Ottavi & Morbelli, at Casalmonferrato in Piedmont, at Lenno on the Lake of Como (Ing. Vanossi's establishment).

Sicily, and especially Messina, expor also a considerable quantity of cream of tartar.

(To be continued )

#### TRADE TRICKS.

It is often said by captions critics that English people do not know how to make coffee, but, according to a recently issued report from the British consul at St. Petersburg, we are not, says the London News, only eclipsed by continental rivals in the art of preparing the fragraut drink, but also in the art of adulterating the raw material. Here we are familiar enough, or rather much too familiar, with chicory as a substitute for coffee, and, doubtless, most of us have heard of the inventive American who brought out a machine for compressing chicory into the form of coffee berries. In Russia the wary purchaser has to be on the lookout for other adulterants. such as burnt beans, roasted barley and the like. The British cousul tells a story of an Odessa grocer who boldly offered a reward to any one who should discover chicory in the coffee he supplied. As a matter of fact, a careful analysia did prove that the so-called coffee contained no chicory; but it proved more, namely that all produce of the coffee plant was equally conspicuous by its absence. The stuff was really nothing more nor less than roasted barley. In a similar way, tsa, which is usually supposed to be so good in Russia, is very often made the means of fraud. A common trick is to mix the good tsa with other leaves which have ouce been used and then dried, a practics which has obvious advantages to those dealers who would thereby feel themselves at liberty to say that the mixture contains nothing but tea. But the most usual adulterant is the leaves of the common willow herh, which, after drying, atrongly resembles the true produce of China and Ladia.

Subscribe for the MERCHANT.

In the Tatura (Colony of Vi etoria,) Agricultural Society an excellent series of competitions has been instituted, which, by stimulating those who have embarked in vinegrowing to greater exertions, will be productive of great benefit to the district. Prizes of ten aud five guineas were offered for the best and second best vineyards respectively, the conditions being that the area should be not less than two acres, or more than five years plauted. The judges were Messrs .T. Blayuey, the well-known vigneron of Nagambie; T. A. Ruttray, manager of the famous Tahbilk vineyard; and John furphy, sen., a prominent horticulturist of Shepparton. Mr. Darveniza carried off the first prize among several competitions, Mr. Kavanagh being placed second. The report of the judges is valuable reading, as it not only gives the points of excellence which secured the awards, but it also conveys general hints upon selection and management that will be found of great use to those who have not had plenty of previous experience. The report, which we take from the Goulburn Valley Yeoman, we publish in full:

Mr. Darveniza's vineyard is about 60 acres in extent, 32 of which he declared upen for competition. The varieties are Hermitags 14 acres, Carbenet or Sauvignon 8 acres, and the remainder, about 16 acres, Pedro and Muscat. The vines arplanted at a distance of 7ft by 7ft. The cultivation of the vineyard is all that could be desired. The pruning is most satisfactory, with the exception that in our opinion the crowns or stools are formed a little too close to the ground. The disbudding has been carefully and well done, and reflects great credit upon the skill of Mr. Dar-

The vines are well grown, healthy and clean, and entirely free from any sign of disease. With regard to the varieties we found in Mr. Darveniza's vineyard, we are pleased to see that he has devoted so much acreage to Hermitage and Carbenst, nudoubtedly the very best varieties of red grapes that can be procured, as they produce a most marketable and excellent wine. The Hermitage is regarded as the standard grape, giving quantity and quality. But the Carbenet, though not such a heavy bearer as the first-named, is the grape par excellence, producing a wine of the delicate flavor which may be found in the celebrated brands Chateau Lafitte and Chateau Margot, produced from the same grape known in France from the province (Sauvignon) in which these famous wines are produced. In the Pedro, Mr. Darveniza possesses the very best bearing white grape, and the wine has the advantage of maturing earlier than either the Reisling or the Verdeilho We cannot refrain from remarking the absence in your district of these two last mentioned varieties. The Pedro. though the best bearer, does not produce by any means the best, and regarded commercially, the highest priced wines, its wine being regarded as very inferior in comparison with the Verdeilho or Reisling. The Verdeilho produces a most excellent Madeira, and the Reisling, as its name implies, is the most "noble" of wines. The staking of Mr. Darveniza's Hermitage and Carbenet is all that could be desired, but we consider that he has a great number of vines rising three years old that should have been staked in order to properly train them, and give the vines the support they ing upon thoroughly sandy soils unless

PRIZE AUSTRALIAN VINEYARDS. require. With regard to the distance we consider that 7ft by 7ft is too close, and that 8ft by 8ft apart is the best distance at which to plant vines. Our reasons for making this assertion are that the distance we have mentioned as desirable enables the vineyard to be most conveniently cultivated by means of a three-furrow plow and two horses without injuring the vines. When the vines are planted closer than this the roots get too close together, and nothing is more necessary to the health and strength of the vine than room for the roots to spread and derive sustenance from. Again, in planting closer than the distance we have mentioned there is a danger that the crests of the vines might be in the way of proper cultivation.

In conclusion we like tu make a few remarks on Mr. Darv.niz i's cellar, though his, as you are aware, is not strictly within our province as judges of vineyards, but we are making these observations in the hopo of benefiting those who may follow the casellent example Mr. Darveniza has set. In our opinion Mr. Darveniza would have dor 8 letter if the walls of his cellar had beeu nigher and citb r felting or refrigerating mint had been us.d beneath the iron roofng A cold cellar will keep wine, but a very low temperature is undesirable where t is necessary to mature wine. Too low a temperature will kill the fermentation formaut in young wines. Mr. Darveniza's press and vats we find well suited to the size of his vineyard, though we think be would find it an udvantage to have the staves of his vats shorter, or in other words to have a larger surface exposed to the air, in order to produce more perfect and equitable fermentation.

The pruning of Mr. Pagan's vines is defective in many ways, and we can urge nothing better than that your enterprising and energetic vignerons should consult practical men before next pruning season as to the hest means of getting their vines into a form that will ensure the greatest production at the least cost to the vine. We could not help noticing that the young vines in Mr. Pagan's vineyard are somewhat irregularly planted, and it would be very desirable to see that they are straight. ened. Even in the first season we are of the opinion that the vine requires a temporary stake.

In concluding on remarks, Mr. President, upon viueyards brought under our notice, we must compliment your society on baying stirred up a friendly rivalry among the vignerons of the district by offering these wellmerited rewards for thrift and perseverance in an industry that promises to become in the near future one of the most important in this prosperous colony. It gives us much gratification to be able to commend the competitors, successful and unsuccessful alike, upon the excellent care they have taken of their vineyards. They are all, we feel assured from what we have seen, imbued with the right spirit, and all they need is a little more experience. This they cannot purchase, and time alone can give it to them. The excellent example set by your association will induce the unsuccessful to consult the successful and in time to become the successful ones themselves. As we have said before, the soil of the district we have visited is admirably suited to the cultivation of the viue ; and there is no obstacle in the way of the successful prosecution of this most fascinating industry. We would warn your settlers against plant-

clayey subsoil is within reasonable distance, But your sand hills are so few and far between that it is almots impossible to go wrong in planting vines in a district so perfeetly adapted to the remunerative culture of the vine.

In the varieties enumerated above, Mr. Kavanagh undoubtedly possess s the very hest table and raisin grapes. His vines are clean and healthy and free from aisease, This last observation, we are pleased to say, applies to all the vineyards we have visited in your district, which is most admirably auited to the successful cultivation of thia rofitable fruit

With regard to the distance at which Mr. Kavanagh has planted his vines, we have already said we regard Sft. x 8ft, as the most satisfactory in every way. Mr. Kavanagh's method of cultivation is very good, the implements he uses being a three-furrow plow and a disc harrow. The latter we may observe is an excellent implement to use when the soil is light and easily friable; but we do not consider it suited to heavy, stiff ground.

It is in the method of pruning that Mr. K avanagh, in common with all other exhibitors, with the exception of Mr. Darveniza, has failed. It is a comparatively easy matter to cultivate a vineyard thoroughly and to give it a generally good appearance ; but it is in the most inportant point of pruning that the practical vigueron is distinguished and rises superior to the amateur. It is a pity, that with a soil and aspect so nearly approaching perfection, that Mr. Kavan agh did not seek really practical assistauce in the pruning of his vines. As we have said, the same fault is noticeable in the other competitors, with the exception mentioned. In the majority o. cases we have found the crown too close to the ground, and in other instances the vines have been allowed to run into too much wood. These are both most serious faults; and it will take time to rectify them; but it is essential that they should be rectified as soon as possible. The crown of a properly pruned vine should not be less than a foct from the ground. If it is lower than this it involves unnecessary labor and loss.

Mr. Kavanagh, we noticed, in common with the oth r competitors (with the exception of Messrs, Darveniza and Nickinson), ties up his vines to the stakes with twine This we regard as an unnecessary expense in two ways; firstly, because twine is more expensive than rushes; and secondly, because it takes longer to tie the twine than the rushes, and loss of time is necessarily loss of money. But the most cogent reason of all against the use of twine is that it will not give to the growth of the vine and cuts into the tender shoot. Its use should, in our opinion, be most seculously avoided.

Mr. Kavanagh, we regret to see, has only disbudded in a very imperfect manner. Disbudding we regard as a most essential operation upon the vine. If properly performed it has a most beneficial effect, ensuring the maximm amount of fruit with the maxium amount of wood and strain upon the vine. If disbudding is neglected it allows the vine to exhaust its strength in making wood which should otherwise have gone into fruit. The vine becomes crowd. ed with nanecessary wood and foliage. which prevents the free play of air through the branches. Again, it is a much easier and more economical operation to remove them as hardened and tough wood in the proning season. The old, and very true contemplate starting as vignerous,

should go," etc., applies to the vine. The vine when young is tractable and easily trained, but allow it to run riot for a few years, producing a great deal of wood and very little fruit, and the vine, like the 'neglected child, will have become entirely unmanageable, and worse still, unprofitable, and is only fit to be dug up and cast ont of the vineyard.

In conclusion we must say that Mr. Kavanagh's Lake Eric Vineyard is a most pleasing and refreshing sight. The soil is admirably adapted to the cultivation of the vine especially for table varieties; the aspect is delightful, and the general appearance of the place very attractive. Mr. Kavanagh is exceptionally situated in regard to natu al drainage, as vines will stand and flourish with any amount of water at their roots, but soon succumb if the water is allowed to settle on the surface.

Ma. Ggo. Pagan-3rd prize.

Mr. Pagan has this year planted out 41 acres of vines, but the area submitted to our inspection was five acres, consisting of two acres of Hermitage, and one each of Carbenet, Chesselas and mixed table varieties. The vines are planted 8ft, x 10ft., and the vineyard is clean and well cultivated. The pruning is very defective we regret to say. The crowns are too close to the ground and badly formed. The vines are neatly tied to stakes-although with twine-and very well topped. Dishudding has been almost entirely neglected.

The varieties of grapes in this vineyard are good, and we must particularly commend the Chesselas, the most serviceable of the white grapes. In connection with this grape we would remark that it is invaluable to the vigneron. It ripens earlier than any other variety; and does not gain in succharine strength by being left on the vine till the very last of the vintage. This we have proved by experience. In planting his vines at irregular distances (Sft. x 10ft.) we are of opinion that Mr. Pagan has made a mistake, and would have done better had he kept the vines equi-distant throughout.

In cultivating, Mr. Pagan uses n single, forrow plow and a disc harrow. We have already referred to the latter in our report upon Mr. Kavanagh's vineyard. With regard to the former we consider that its use involves unnecessary labor, unless in certain seasons, and that if a three-furrow plow were substituted it would be found more economical and satisfactory

The form of the casks we can recommend on account of the economy in space, but we would warn vignerous in future to be very careful in ordering caska, to be sure to obtain a guarantee from the maker that the wood is of the best and well seasoned The demand for casks is so great that the unscrupulous manufacturers are tempted to use nuseasoned wood, and the resulta, we need hardly point out are likely to be most disastrous to the nususpecting vigneron. The cost of these casks should not be more than 61/4d per gallon in Melbourne, and experience has fully proven that a capacity of 500 gal, is the most serviceable. In larger casks the body of the wine is so great that it seems to prevent floing, and very much smaller casks though maturing the wins quicker involve additional labor and require much more room.

In conclusion, we must compliment Mr. Darveniza upon the general appearance of his vineyard and cellar, and to those who have already cultivated, and to those who

saying, "Train up a child in the way it strongly recommend they should endeaver There are casks of brandy here-profusely to obtain a little of his most valuable experione before planting out their own vine-

Ms. KANANGH-(2nd prize.)

Mr. Kavanagh, Lake Erie, has 24 acres under vines, comprising about 15 acres of Gordo Blanco, 3 acres of Raisin des Dames, 2 acres of Sultana, and 3 acres of Hermitage. The vines are planted 10ft, by 10ft. The cultivation is good, but, in our opinion shallow. The pruning is defective, the frut, being too near the ground. Mr. Kavanagh has almost neglected to dishud and the vines badly want topping, but were all well staked and neatly and regularly laid

#### LONDON'S WINE VAULTS

The following interesting descriptions of the disposition of choice liquors in the British metropolis, isextracted from a recentissue of Tid Bits:

The total floor area at the vaults of the London docks is a million superficial feet, and in this space, 83,000 pipes of wine can easily be stored, and then room found for 75,000 casks of brandy. The various vaults are built in the form a crypt. The largest of these-the east vault-covers four acres of ground and as we take our light, a small oil lamp fixed to the end of a piece of wood some eighteen inches long, our guide informs us that there are in this cellar alone twenty-one miles of scantling wire, or min, iature railway lines, over which the barrels are rolled.

The rool for yards and yards is covered with a beautiful species of fungus, the growth of which is due to the fumes of the wine, a peculiarity which is all the more noticeable, as where no barrels find a temporary resting place, no tungus grows aloft. It is as light as feathers, and takes the most elaborate and artistic forms. Small hillocks, gigantic bunches of grapes, long ropes which a puff of the breath will snap in two, while such delicate designs are to be found here as to make the lover of lace envy the patterns. In the midst of all this mushrooms grow, and in the season a good crop is always recured.

"The Drawing Room" covers nearly an acre. This is a private vault, scrupulously clean, the sawdust carpet unspotted. It is rented from the company by a well known firm of wine merchants, and as we examine a cask called "The Duke," we learn how testing is managed. The hung of a barrel is never removed for testing purposes, but the attendant has to bore a small hole in the cask, and the wine flows into the "dock" glass. The taster having satisfied himself as to strength, the flow is stopped by the insertion of a small stick of wood. Every hole has to be accounted for, and the total must correspond with the number of 'testing orders" issued from the owner's office. Sometimes a whole harrel runs away in tasting

The brandy cellar covers about seven acres of ground and some 21,000 casks are resting there just now; but during the Franco-G rman war the authorities contrived to provide accommodation for 72,000 caska. All the brandy was driven out of France; its value was \$15,000,000, and an official who helped to receive the barrels at the time, has made an interesting calculation that if they had been placed in a line they would have stretched for thirty-four miles. decorated with cobwebs-over twenty years old. One of the gangways is nearly a quarter of a mile long, and in the midst of this hugh cellar runs the snow tank, into which all the sluice, snow and mud of winter is poured.

The "vatting flor," where brandy is improved by mixing one quality with another, contains some of the largest spirit receptacles in the world, gigantic yellow tubs symmetrically made, on each of which is painted its holding capabilities. Here is one which requires 10,000 gallons of liquor to fill it, another takes 3,000, others 2,440 1,450, 1,500, and 530, something like a thousand gallous of brandy running through the taps every day.

The mixing process has ceased at the moment of our visit, but it is whispered that in another corner of the dock a large quantity of gin is about to be converted into 'sweetened." The 'sweetening' barrel, holding the modest quantity of 5,070 gallons-into which the gin in its nusweetened state is to be pour d-is on one floor. Above it, immediately over its hugh mouth is an opening some yards in length, and four inches deep by nine inches wide, and into this a rivulet of gin is flowing from the interrior of five large casks which are emptying themselves into the barrel below. As soon as these are empty, others take their place, and the "vat" filled, the engar in a liquid state is added, the whole mixed together, and shortly afterward it is bottled sent abroad and approved of as the choicest "Cream of the Valley."

A word about the bottling department. As fast as the wine is put into bottles it goeout for export, the number of doz us seals ed, labeled, capsuled and packed in cases every day being 400. A good packer can case a hundred dozen bottles between 8 and 11 o'clock in the morning. In the cellar below the bottling room-where, by-thebye, 600 dozen bottles can be placed side by side on the floor-barrels are kept, and although the cellar is lighted with gas, fifty-four lamps are needed for dark days. nine of these being "Davy's." Here in one corner are the wax pans, the merchants not only having to provide their own bottles and lables, but war in the bargain. It takes five minutes to melt a pan of wax. It is placed in a copper pan, hented over a gas atove, and when melted is placed in a receptacla containing a small spirit lamp, which keeps the war in a liquid state, and finally the case is locked,

Southern Cultivator is responsible for the following: Cut the beef in convenient pieces and salt down as usual, a lding a " pinch " of saltpeter to each piece. Let it remain in salt three days; then drain off the bloody brine formed by the salt, wipe each piece with a clean cloth and repack in the tub or other vessel used, a syrup or molass, s cask will answer, but not a whisky barrel. For the brine, take as much water as will cover the beef; add salt until no more will dissolve; a tea cup of ground saltpeter and a quart of molasses, or its equivalent of brown sugar. Boil and skim well. When the brine thus prepared is entirely cold pour it over the beef and keep the latter well pressed under the brine. These proportions are for 200 pounds of beef. If the brine should mold to warm weather reboil and skim it, adding half pound of cooking soda, and when cold return to the beef,

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#### TERRACING PLANTATIONS.

A correspondent of the Scuthern Cultivator, speaking of the numerous suggestions says:

I will give the one I fell upon in the winter of 1882-3. I do so the more willingly because my neighbors like it, and are adopting it.

It looks very nice upon paper, and in the field, to have trees in squares, so many feet each way, and even to go further, and dot the spaces with various kinds of fruits, etc., but whether it is best for preserving the land and feeding the fruit trees, is the question. I was first brought to reflect upon this by observing the vigor of trees upon roadsides and in fields which had had the henefit of drifts-humus accumulations. I then determined to set an orchard in which every tree would have the benefit of the land drift. I first commenced by running my rows upon a level, and then dropping down the hill far enough to throw my rows the proper distance apart. On this ptan I planted about half of my orchard in the winter of 1882-3.

In the May crop report for 1883, from Commissioner Henderson, I read a short article by Dr. William P. Harden, of Smyrua, Cobb county, Georgia, on terracing. (Let me say here, in my opinion, that short article, did more good for agriculture in the South, than anything and everything that has ever been done in the past fifty years. Mark it!) I at once adopted his suggestion as to the three feet fall, which answered my purpose very well upon rather steep hillside, but when I reached land gently sloping, I had to throw in other level rows between so as to have my rows as near each other as I wished. On some parts of the field, the fall from a given row to the next row below would scarcely reach one foot, Of course my rows would vary in width, according to the land passed over, but I paid no attention to this, but kept on a level line, and dividing the distance between my trees in the rows according to the habit of growth of the variety, and the character of the soil. After trying this a few years, I decided the roots on the lower side could not obtain sufficient nourishment, so I dropped below with my terrace, so as to give five feet from the upper border thereof, to the fruit trees. This allows the planting of a row of corn or cotton between the terrace and fruit row while young, and fuller play for the roots of the trees. I like this plan better for the apple, and also for the peach, except on good stiff clay lands. On such lands, the better drainage of the first plan insures loss rot in the peach in bad seasons.

Now, in laying off, I mark my terrace line with a long and very narrow scooter, and set a sprig of the paspalum ovatum grass every twelve inches, any tim's from the first of May to the first of November but always soon after the furrow is run and has been rained upon. Just six and a half or seven feet above this line, I run a parallel furrow for my trees, or measure from my terrace furrow with a six and a half or seven foot pole to the point I wish to set my tree; now leave a space one and onefourth to one and one-half feet on either side of the terrace line, and the paspalum will, in one or two years' time so densely and stoutly set the two and a half or threefoot terrace, as to defy floods, and the emigration of soil.

turning plows, for when such break, I think more damage is done than when the line is left level, and we trust time, cultivaand plans given for planting out orchards, tion and a grassy terrace to gradually gather up the humus, level up and enrich the land. I prefer the paspalum ovatum grass, because it makes a very strong turf; grows so closely as to allow nothing but water to pass through; is a winter as well as a summer grass; grows better than anything I have tried on poor land, does not parch or wither in dry weather; sends out its columns from three to five feet, and can be moved from three to five times each season, thus making the terrace a valuable part of the farm, and where there are no trees to be injured, affording good grazing in the winter. Though it spreads very rapidly, it can readily be kept in bounds by the plow, unlike Johnson and Bermuda grass. It ripens seed continuously frem June until checked by heavy frosts; they are with difficulty saved, because of irregularity of ripening, so we allow them to fall off and germinate, and use the sets to scatter it. My oext choice for the terrace (and I have tried a number) would be our common crab grass, which can be made to thickly set the line by cutting the weeds closely with a mowing blade just as the grass makes its appearance in the fields, about the 15th to 30th of May every sea-

With these, and other grasses to deck our terraces, I don't see what is to prevent us in the near future from retaining all the humus, the cream of our lands, for the benefit of our crops of truits, cereals, etc., and giving our worn-out hillsides their best and only chance for remunerative recuperation.

#### SHILL IN CONCENTRATING MA-NURES.

Forty years ago, in treating of guano and other concentrated manures in an agricultural report made to Congress, page 31, 1849, the writer said: "We greatly need additional experiments to test in a reliable manner both the natural capabilities of soils, and the productive power of different fertilizers. The simple fact that 300 pounds of guano often give a gain of twelve hundred pounds of corn, and six hundred of wheat crops, is full of promise in favor of concentrating mannres. In hauling out one hundred loads of barn yard manure the farmer carries, on an average, eighty loads of water. Water is very valuable, but it will hardly pay to haul it in carts or wagons to irrigate field crops. The great weight and bulk of manure must be got rid ot without impairing its productive power."

Since the above was written and in print, experiments in the United States and in Europe have steadily favored the formation and use of concentrated fertilizers. We import with a surplus of rich land a our doors, ship loads of potash salts, beet sugar and Irish potatoes from Germany, the heart of Europe, where may be seen ten agricultural schools, to one in this uation of farmers. There is nothing pecu liarly sweet in the beet roots, soil or climate of Germany, that our coffee should he sweetened with German beet sugar. This sugar, on which we pay an import of many milli ns a year, is composed of water and very cheap carbon. German salts of concentrated strength, and beet without foundation,

I have never thrown up terraces with cake, after the juice is taken out. This cake is not as rich as our best cotton seed cake, but, fed to dairy cows, it yields a profit that tends to give the world cheaper sugar and plenty of it.

> The carbon and water that sixty million Americans buy of Germans, partly in the form of starch in Irish potatoes, and partly as beet sugar, comes almost as a free gift to educated Germans from the atmosphere. The Low Dutch Hollanders are probably the only people that equal the High Dutch Germana in skillful farming. Both are paying land rent at about twenty dollars per acre, per aunum. Such rents imply not paying field hands to handle nearly worthless manure. Our coatly farm labor, thrown away in the United States, is the weak place in our system of husbandry. It compels the large importations of organzed carbon and water, and the never-ending impoverishing of American farms. The system is radically defective.—Ex.

#### DOES TRUIT PAY?

Captain P. T. Adams of Tustin informs the Orange Tribune, that if the fruitgrowers of Southern California would giv three-fourths of the attention to their orchards that the Eastern farmers do to their grain fields and the economy in man aging their properties, the aggregate e profits from fruit culture would be unparalleled in the whole world. The Captain has had a crop of English walnuts for four years from his forty trees, and says he never sold any crop for less than \$475. He recently sold his last crop of the walnuts for exactly \$531. He watches his trees as carefully as a merchant would his ledgers, he knows all about them -in fact he makes a thorough business of fruit culture. The average proceeds from each walnut tree on his place this season has been \$13 27. The crop was not a very good one, either.

Beside his walnut trees, he has 1000 Naval orange trees, which he looks after with unusual care, and last week he was given a standing offer of two weeks, of \$3280 for the crop on the trees. He sold last year's crop for \$3000 cash down, without picking an orange himself. He has four acres of prune trees that have horne for three years. Last September he sold the whole crop for \$395. He will plant more walnut and orange trees this season. He has spent but \$130 for labor during the twelve months.

Now here is still another practical illustration of what a twenty-acre farm is Southern California in this locality will do under the management of an efficient, wide awake man. We venture the statement that no land owner or farmer or horticulturist east of the Rocky mountains hus made such profits from the soil of a twentyacre piecs of property at any time since the war. And yet there are some people who will sit about the grocery stores or whittle up dry goods boxes for hours at a time and dolefully tell you that there is no money in fruit culture in Southern California. We insist that there is if the orchardist attends to his business.

Bonfort's Circular says: The rumors that have been going the rounds of the Paris papers regarding the sale of the secret, etc., of the liquours of the Carthuakill, manures, beet-fields, with agricultural sians to an English syndicate, are utterly

#### VARIETIES OF OLIVES.

The designation of queen has no reference to size, only the variety, they being round-the others eval-in shape. The olives put up for table use by the Bordeaux bottlers are of several diff reut varieties. The large Spanish olives, known to us as queen olives, are known to the trade as padrones Sevillas. These, by the way, are quite a distinct variety from the other varieties grown in Spain, known as mauzanillas, which are used for making oil, and the gordalles, having much more meat but less oil. The smaller olives put up in Bordeaux are principally of French growth and are known as amelleaux, verdallas and lucques, the latter called here crescent olives, on account of their shape, and are much preferred to any other for table use. The verdellas have a strong, full flavor, and are much used as sauces to be served with meats, while the am Heaux have a ittle more oil and less flavor. There is dse a fourth variety, know a as the picrelies, similar to the amelleaux in charcter, but larger and louger. Olive farcies tre amelleaux olives stuffed with anchovies and capers. As a rule, the American trade refers the queen olives, on account of their ze and fine appearance, the smaller size wing as large as the largest of the other varieties; but in Europe the smaller olives urs quite generally preferred, on account of their flavor and the finer quality of the neat - American Analyst.

#### SUGAR NOTES.

The results obtained by nearly all the German sugar manufactories during the campaign of 1887-1888 have already been noticed, month by month, in the Sugar Cane. The few which bring up the rear might naturally be expected not to present the most favorable results. Accordingly we find that the Pakocs's manufactory, with a share capital of M.7000,000, showa a loss of M. 67,374, raising the deficit on the general balance-sheet to M,402,612, while that of Gorchen (share capital M.500 000.) has lost M.2,829, which amount has to be added to the balance of M.64,959 already on the wrong side in 1886-1887.

According to the Prager Zucker-Markt and the Deutsche Zuckerindustrie, a beet sugar manufactory is to be erected in Portugal, the premotera being Germans; the preliminary capital of £75,000 having a!ready been subscribed. This is to form a beginning, trials having shown that Portugal can produce excellent beets. Fiscal arrangements will give the home product an advantage of nearly 10s, per cwt. (?).

The sugar refiners in Cauada, or most of them, have had a pretty good time of it for the past two years, some of them having realized as much as 100 per cent. upon their capital stock! The Woodsids Refinery (Halifax, N. S.) forms, however, an exception. It has lost all its capital (£120,000) and is owing a large sum to outside creditors.

The Dutsch eZuckerindustrie declares that the proposed premium of 1 ceut. per pound on sugar produced in the United States caunot be considered as a bounty on export, but only a favor granted to the national production,"

In Holland the Cultus-Maatschappij Soember-Kareng has been founded with a capital of fl.504,000 (£42,000), iu shares of fl.3,500 (£291), to work the sugar plantation of Soemher-Kareng, in Java.

#### CALIFORNIA COMPLIMENTED

The Anglo-American Times, the wellknown London paper, takes occasion to make the following kindly remarks about the Golden S.ate: California is sending around a traveling exposition which in the Eastern States is attracting attention, for it displays the products of a warm climate in a country covered with anow. It is a glimpse of midsammer in the depth of winter. California is a very pushing State and has no intention to hide her light under a hashel. Orchards and vineyards are coltivated and encouraged, and a Bill now in the California legislature proposes to reduce on these the State and county taxes. Young plantations are not to be assessed as improvements until th y b gin to bear. State officials are vigorously investigating the cause of vine disease in Los Angeles. It is found to be of the same character as that which broke out in the southern parts, and the chief viticultural officer requires all vinevardists to send specimens where any appearances are suspicious. Once thuroughly understood, the care will follow. The discase aff cts the vines so as to pre sent two groups. In the one group the vines are either dead or nearly so. leaves have fallen off leaving the stalks on the branches and the fruit has dried up. Although leafl ss, the stalk presents a differ-ent appearance from the stalk that has died in the natural way. Before the leaves fall, there are watery patches, red, brown and silver grey in color, and small spots of langus growth on the older branches. The fruit stalks are similarly affected, while the grapes have shrivelled up.

In the other group the leaves look as if they had been scorched along the edges, beginning at a point on the margin of the leaf and spreading inwards. The leaf then torns brown, carls up, and the dead portions show numerous spots of fungus. All the fruit bunches are either destroyed or very much affected; but every part presents the same spots of lungus which can be seen through a misroscope, but the effort to trace the langus into the tissue has so far failed. This disease with which California is now busying itself, has attacked the most valuable industry in the State, In the yearly review of California industries, the vineyards were shown not to have yielded so much as was expected early in the season-only 17,000,-000 gallons or a million increase over the previous year. Last August the estimate was 21,000,000 gallons, but there followed two weeks of hot weather, then a deluge of rain, and by that a fourth of the crop was lost. By counties, the production of wines was as follows; Napa. 3,000,000 gallons; Sonoma, 2,500,000; Santa Clara and Santa Cruz, 2,000,000; Alameda and Contra Costa 1,500,000; San Joaquin, 300,000; Fresno 2,500,000; Los Angeles and south, 3,000,000 Sacramento and north, 1,500,000; other counties 1,500,000. Of this amount, at least 4,000,000 gallons will be distilled, producing about 600,000 gallens of brandy. The balance of 13,000,000 gallons will con sist of dry and sweet wines. During the past year over 7,000,000 gallons have been exported, and there was a home consumption of five or six million gallons. San Francisco exported 7,170,634 gallons of wine, and 428,135 gallons of brandy. Nearly half went to New York-3,002,565 gallons wine and brandy; while to foreign ports the shipments were 398,579 gallons small, but yet a large increase over the

previous year, when 258,248 gallous were shipped. Calculating on the vines now planted and in bearing, a good crop would be 25,000,000 gallons. In wet seasons tha vine is liable to suffer from heavy spring frosts in the Bay counties, and in the interior counties the vine suffers from the sun. The planting has not been so active this year as during the two years before, because of the low prices for grapes and wines. The ordinary grape averaged from \$5 to \$15 a ton; and from \$20 to \$30 for fine varieties. The price was higher early in the season than later on; and when it was discover d that the yield would not be as heavy as expected, prices rose up to eighteen and twentyave cents a gallon, for win's of 1987. The California growers suff r from the ignorance of the world regarding the value of their produce. We strongly nrg-d California to pash her wins interests at the American Exhibition in London, and a high authority on Viticulture, the SAN FRANCISCO MES-CHANT reproduced our articles. California should bear in mind that the fashion will be given by Europe, especially by England, and if she has to push her interests in the Eistern States by sheer force of m rit alone, it will be long before the demand will exceed the power of the vineyards to meet it. But if Americana begin to drink California wines at European tables, they will assuredly on their return begin to buy Californian wines for their own tables. The Prince of Wales is said to have formed a high opinion of California wines. American cocktails and such drinks are rabbish, but America has in California the finest wine-growing country in the world. Its merit as a wine-grower is being slowly recognized, but not before the vineyardists began pulling up their vines and planting orchards, so disheartened had they become by the poor reward they received for their labor. It was not the wine that saved the grapes, but the demand for fresh grapes, and the excellent quality of the raisins. It is to be hoped that California will make a fine display of its fruits and wines at the These opportunities Paris Exhibition. should not be lost, because they bring the wines side by side with the produce of other countries, a comparison California has no cause to dread, but on the other hand every reason to seek.

#### GRAFTING THE VINE.

As the time for this most important operation is again approaching, and I will have to do a good deal of it myself. I will try to tell your readers which will be the process I have determined on, after seven years of experience here; and an Eastern experience dating back to 1852, when I was the first who attempted it in Missouri.

I think there will be a large area grafted the coming spring, especially Zinfandel and Charboneau, Mataro and other red wine grapes, on soils which have not been found to make good red wines, especially in the Southern counties, where they will, in most cases, be grafted to raisin grapes, as they have had a ready sale and as the raisin ontlook is very promising. In the more Northern counties, where raisins are not as safe nor as advisable a crop, it will be more advisable to graft them with the best white wine grapes. Having experimented with the last mostly, I will give my choice of varieties first, also the reasons why I should choose them. The modus operandi is, of course, the same, whether grafting for

the work may differ in different sections. Of this, more hereafter.

Sauvignon Vert, as it is erroneously called though I think it the troe Pedro Ximenes, has I roven itsell to be one of the most valnable of all the whit wine grapes. It is so well known under the first name that it will be difficult to make it known under any other. It is also called erroneously, Colombar which is the Semillion, or rather a synonym of the Semillion. The vine is very hardy, a strong grower, and very productive. Two acres of it, six years old, produced twelve tons to the acre for me, after producing two fine crops before. It always produces a fine wine if well handled, and has made quite a reputation as a wine grale, so that it is eggerly sought for by dealers. One of the most reliable, even in fresty localities, as it starts late.

Green Hungorian, Vert Longne, Long Green. It is long green, indeed, being immensely productive of very long, greenish banches of ten double or heavily shouldered; it makes a very good, sprightly wine of the Ricaling type, and produces immensly under even short pruning. One of the hardiest, most productive and handsome vines I know.

Semidian or Colombar. This also seems to be generally successful in our Northern sections. It is a good bearer with long growing, a very hardy vine, and makes a very delicate wine of high character. A mixture of Semillion, Sanvignon Blanc and Muscadelle de Bordelais are used in France to produce the famous Chatean Yquem wine, of which the Semillion produces the largest part, the others being the

Mursanne or Avilloran. This is another immensely productive vine of the Sauterne type. It is rather late in ripening, making a deep yellow wins of a strong and characteristic flavor; and I have no doubt can be advantageously blended with other wine of a less character; these four varieties combine great productiveness with fine quality and are quite safe to graft to make a very desirable wine. All, except the green Hangarian, belong to the Santerne type, which seem to be more at home here, and produce better, than the Ricalings, for the latter, we seem not so well fitted in location or c'imate, as they often suffer from coulare, and do not produce wine of so high a character as on the Rhine in good seasons.

For quality only, it may be advisable to graft the two following: Muscadelle de Bordelais, Muscadelle, Ruisinote. The latter is a shy bearer, even with long pruning but is used in France for flavoring that highest class of Santernes. A small proportion of it would be very desirable for that purpose.

Rulander. This is the American vine known under that name, also St. Genevieve. It is an immense grower, productive enough of small bunches and berries with very long pruning, and produces a wine which some day will rank very high as it possesses the most spicy and highest flavor known. With this and the foregoing we can give the flavor and Inliness required in the highest types of Santernes, by slight quantity blended with the above quantity of grapes. All of these are hardy, not suffering from extremes of cold or heat, free from sanscald, and will make as desirable wines as we can have. They are my choice for grafting, after a good deal wine or raisin, though the time of doing of experimenting, at least, in this county, a perfect core,

where we think we can make the finest light, dry wines on this coast.

As to red wines, or varieties adapted to produce fins red wines, I do not claim to be so well posted. It seems as if our highest types of red wines, such as Cabernet-Sanvignon, Cabernet Franc, Malbec, etc., are all shy bearers, and therefore hardly profitable enough.

Now as to the time and method of grafting. The time is immaterial, though I have had the best success in April. time from the middle of February to the middle of May will do, provided the scions are kept dormant, which can be done by burying them in a shady place on the north side of a boilding, tree or fence. The them in bandles, taking care to get the lower ends even, and put the tops down, reversing the cuttings, but covering them entirely with fine, mellow earth, to keep them moiat and fresh. Reversing the cuttings will keep the upper bads dormant, and they will not rab off so easily in handling. For the scions I would choose medium-sized wood, well developed and short jointed; and when I have strong vines to graft I would put in eighteen-inch cottings. By taking fairsized cuttings with well developed fruit buds, I can obtain full half a crop the first season, and will avoid the superabundant growth of wood on the graft. Besidea, it gives me the advantage of forming the head of the vine at about the right height.

Where small stocks are to be grafted, of course scions of two to three buds will answer as well, as we cannot count on anything like a crop the first season. Where full-length cuttings are used, it will be necessary to give the graft a good support by a stent stake early in the season.

The grafting can be done at the ürst smooth place below the surface, or even above it, if the junction is kept from drying out by hilling fine soil up around the graft. If the stock is sufficiently strong to hold the scion in its place firmly, no bandage or sealing is necessary. On the contrary, I believe the strong flow of sap in the vine has a tendency to drown the graft if sealing-wax is used. Use either one or two scions, according to the strength and size of the vine. The simplest and best method I have found is the common cleft grafting. For further particulars I refer your readers to my book, "Grape Culture and Wine Making in California. George Husmannin Fruit Grower,

#### A'REMEDY FOR THE VINE DISEASE,

The Los Angeles Tribune of a recent date says: Vineyardists have been at a loss to account for the new vine disease. One thought it was doe to the presence of the pepper trees another to over-much irrigation, another to some langue growth, and so on. The microscope failed to discover its origin. It first manifests itself in the tender shoots, then the branch wither and last the roots die. The sec nd year of the disease on the plant causes its anre death. A vigueron in Pomona, who was born and raised in France, remembered when the disease appeare I in this vicinity, of having seen it in Europe, and also remambered the remedy. He took ten pounds of lime and one pound of blue-stone, which he mixed with sixty gallons of water and thoroughly dampened each vine with this solution. The result is said to have been

#### THE INPROVED METHODS IN CHEMICAL FUMIGATION.

A paper read by Prof. D. W. Coquillett of Los Angeles Professor D. W. Coquillett of Los Angeles in a paper recently read in that city on "The Improved Methods in Chemical Fumigation," said: The process of fumigating trees for the destruction of insects consists briefly in enclosing the tree in an sirtight tent, afterwards filling the tent with a poisonous gas that will destroy the insects without at the same time injuring any part of the er closed tree. The earliest account I possess of any attempt of this kind, is a copy of the specifications for a patent granted to Mr. James Hatch, of Lynn, Masss. chusetts, on the fourteenth day of Msy, 1867. Mr. Hatch's method consisted in inclosing the tree in an inverted sack, and filling the latter with the fumes of tobacco. pepper and other noxious anhstances, by the aid of a furnace and connecting pipe; but this method does not appear to have been very widely adepted.

Dr. A. S. Packard, who for several years held the position of entomologist to the Massachusetts State Board of Agriculture, writes me that he is not aware that this method has ever been used in any of the New England States, and I can find ne reference to its having been used in any part of the States east of the Rocky Monntains, from the dats of the Hatch patent up to the present time.

It appears, theretere, that all the attempts at perfecting this method have been made in Senthern California.

In the earlier experiments the tent used in inclosing the tree was constructed in the usual round er circular ferm, with a rounded or dome-shaped roof, and was lowered down ever the tree from above; it was found, hewever, that the apparatus uccessary for this work, when operated on tall trees, was altegether to awkward or cumbersome to come into general use; to obviate this difficulty, an opening was made in one side of the tent, extending from the roof to the ground, and when this doorway was opened wide, the tent could be put on the tree without being elevated very much; after the tent is on the tree the deprway is closed by bringing the opposite edges together and wrapping them ene around the ether, and te facilitate this a piece of gas pipe is fastened to the tent on each side of the doorway, and extending from the roof nearly to the bottom of the tent.

Mr.H.K. Snew, of Tustin, proposes using a tent of this kind, only Laving two deorways instead of one, so that after the tree has been fumigated sufficiently, the tent can be passed forward eff the famigated tree, and upon the one next to be treated. He prepeses eperating the tent by means of an apparatus consisting of feur pes's fastened tegether at their upper ends, from which the tent is to be suspended, while the lower ends of these posts are to be fastened to two runners, like those of a sled. so that the apparatus can be drawn forward astride of a rew of trees. This is a very simple arrangement, and one that most any fruit grewer can construct with his own hands and at very little expense.

Mr. John P. Culver, of Les Angeles, a civil engineer, and a very practical man, has recently constructed a tent tor incleaing the tree, which, for simplicity of censtruction and ease of operating, is a great improvement upon anything of the kind ever preduced heretofore. It is in the ferm frem ene side, and consists briefly, of two sects than is Paris green.

inverted U-shaped arches, fastened at one side with hinges to an upright mast mounted upon runners. The tent proper is in four sections, and is stretched upon these arches, so that when the tree is enclosed the sides of the tent will restupen the ends of the branches. The inner surface of the two wooden arches, which are to meet each other when the tent is inclused, are covered with a thick layer of felting, and the two arches are fastened tegether by means of a rope and pulleys. This apparatus is a great improvement upon the old way of letting down the tent over the tree from above, and I see no reason why it cannot be used upon the largest orange and lemon

After experimenting with a great many different gases, I have found nothing auperior to hydrocyanic acid gas produced by seting upon a solution of potassium eyanide with sulphuric acid.

Much will depend on the comparative purity of the evanide used, and while it is not necessary that this should be chemically pure, still it should not contain any visible impurities. One of the best tests of its purity is to peur a small quantity of sulphuric acid upon seme of the dry cyanide, and if it evolves the gas in the form of a whitish vapor, the cyanide is sufficiently pure; but if-it simply effervesces, without preducing a visible gas, the cyanide will answer the

The dry cyanide should be kept in airtight packages, otherwise it will less much of its strength. It is commonly seld in sealed tins, containing one and two pounds each, and should be allowed to remain in these cans until ready to begin operations.

For rendering the gas harmless to the tree, I know of ne methed superior to that of passing it through sulphuric acid. Fer this purpose the gas is generated in a closed feaden generator, furnished with leaden pipe leading into the top of a second leaden vessel containing sulphuric acid. The pipe from the generator should pass nearly to the bottom of this second vessel, and the gas wilt then be allowed to pass upward through the acid, and by a second pipe will enter the tent which encloses the tree; after this the air and the gas in the tent should be thoroughly stirred, and the tent be allowed to remain on the tree about half an heur

The acid, threngh which the gas has passed, can be used for generating the gas the next time, and fresh acid should the poured into the second vessel for the gas te pass through.

I will here briefly notice some of the ebjections that have been raised against the universal use of this method for the destruction of insect pests.

Firstly, as to the peisoneus nature of the gas, and of the chemicals predncing it.

While due care, in handling these poisous, sheald always be exercised, yet, with only reasonable care in this direction, no evil results will follow. When Prefessor Riley first advocated the use of Paris green for the destruction of the potate bog, people in every direction lendly protested against the use of this poison, saying that its use would certainly result in the wholesale peisening of children and farm animals, and by being carried by the plant to the tubers themselves, would thereby cause the death of every person who ate potatoes that had been treated with this poison; and fetat the present day no substance is mere of two half tents, which inclose the tree successfully used against manipulating in-

Moreover, if the process of transmitting the gas from one tent to another should succeed, as I believe it will, this will greatly lessen the danger of being poisoned by the gas, as compared with the present method of allowing the gas to escape in the air, as soon as the inclosed tree has been sufficiently famigated.

It is also claimed that only a trained chemist can manipulate the production of gas; but this is not true, since any person of ordinary intelligence can accomplish this quite as well as a trained chemist could. Of course this part of the work should not be entrusted to any and every person, but this is equally true in regard to the other methads for destroying insect pests, and I am sure your Secretary will agree with me, when I make this assertion that even the best washes that have ever been produced for the destruction of scale insects will, in the hands of careless and inexperienced persons, give only indifferent or unsatisfactory

In the matter of fumigating orchards, it would doubtless be desirable for certain persons to purchase the necessary apperatns, and then ge frem orchard to orchard. fumigating the trees, at so much per tree, jast as, at the present time, the hay balers ge from field to field, baling the hay at so much per ton. Already the cost of the apparatus for operating the tent has been very materially reduced; thus, the tent ever the tree from above costs all the way from \$150 to \$300. I am informed that the cost of the Culver fumigator will not much exceed \$100, while the apparatus suggested by Mr. Snow should not cost over \$50.

The only real obstacle to the universal adoption of this method is the present high price of potassium cyanide.

For this I am obliged to pay in Los Angeles from 80 to 90 cents per pound, which puts the cost of fumigating an orange tree, twenty feet tall by fenrteen feet in diameter, something like \$1.75 per tree. It has been the rule with every manufactured commedity, that when it came to be very extensively used, its price diminished in the same ratio, and we may confidently expect the same thing to happen in regard to the cyanide; but this is a phase of the question which I must leave to the fruitgrowers for their consideration.

Befere closing I would like to give a little experience which I had in fumigating with tebacce. I had an upright earthenware farnace constructed, the interior of which measured about three feet high by eight or ten inches in diameter: this was constructed in such a manner that a Cumming's blower could be attached to it for the purpose of firing up the charcoal, and it was furnished with a pipe for conducting the fames into the tent. I filled this furnace about half full of charceal, and when this had been heated red bot, I threw upon the het charceal about four pounds of refuse tobacco stems, connected the pipe, and allowed the fumes to pass into the tent previously placed over a small prange tree; the tent was moved from the tree at the expiration of one hoor, and it was found that all of the Iceruas were dead, as well as were also the black scales, Lecanium olear, and the seft scales, Lecanium hesperidum, but only a small percentage of the red scales, Asidiotuz aurantii, were killed, while the tree was uninjured.

Whether or not this method could ever be used against the Icerya en a large scale,

is certainly much cheaper than famigating with hydrocyanic acid gas, and almost every fruit grewer could raise all the tubacon necessary for fumigating and at very little expense.

#### FIGHTING PHYLLOXERA.

The battle with the phylloxera, which is in perpetual progress has already cost France upwards of £400,000.000, according to the Pall Mall Budget. How do the vinegrowers meet the attack of this terrible little foe, which has cest France such an enormous treasure? It is said, on good authority, that one female "phylloxera of the leaves," born from the winter egg, has, at the end of May, laid 500 eggs. The family of 500 produces by the end of June 250. 000 more phylloxers, at the third generation the number would reach 62,500,000,000 and there are five or six generations in the year. These insects go to the root of the matter bidding adien to the leaves in June, and journeying to the roots as rapidly as possible. There are several recognized methods of conducting the battle. Take the one that is adopted on Messra. Gilbeys' estate in Medoc. First a large quantity of water has to be pumped up from the river, which is distributed over the vineyard by miles of piping, laid methodically along the course of the vines. The date for the cummencement of the treatment is about the 20th of March, and at that time gangs of men and wemen are employed preparing the heles (curettes) for retaining a solution of the sulphe-carbenate around the feet of the vine, until the whole has been abserbed by the seil. The pump and tubing having been put in position, the work of the treatment is carried out by six men, each fellowed by a woman having a supply of frem 10 to 15 pints of sulphe-carbonate and a measure holding a little ever two nunces. In order to ensure the methodical working of the treatment, the signal to commence is napally given by means of a whistle copnected with the steam pump, and each man then starts by filling the cuvettes with a quantity of about two gallons of water, into which is poured the dose of snlphocarbonate of pettassium decided upon, a further quantity of water then being added until the cuvette contains in all from about three and a half to feur gallons of liquid.

Much impertant matter is embedied in the following rules, published by the Royal Agricultural seciety, in England:

Rinse all dairy utensils in cold water. Scald with hot water and rinse again with

Always use a thermemeter.

Churn and cream to be at a temperature of 56 degs, in summer, 60 degs, in winter, Ventilate churn sufficiently.

Churn at forty or forty-five revolutions per minute.

Stop churning immediately the butter comes. The butter should be like grains

of mustard seed. Draw eff buttermilk and wash the churn till water is clear and free from buttermilk.

Make a strong brine, and pour into the churn through a hair sieve.

Remove butter and work on a butter worker. Never use the hands.

Messes, A. Ebermayer & Co., are established at No. 10 Barclay street, New York, as the representatives of the Sierra Madre I leave it to the fruit grewers to decide; it | Vintage Company and G. Greezinger.

#### SAN FRANCISCO

#### The Progressive and Wealthy Mctropulis of the Golden West.

In 1542, a little band of Spanish explorers under the supervision of the party, Don Guspar Portola, left San Diego with the intention of going direct to Monterey bay, but not knowing the exact location, they went about seventy leagues to the northward, and wandered for days over arid sand hills, viewing with dismsy the barren country.

But they were amply repaid for the anxiety and hardships they had endured, for they presently came in sight of an immeuse sheet of water, lying at the foot of saud hills, and bounded upon its farther side by mountains and slopes of green, This is how the harbor appeared when first viewed by Christian eyes, lying as it were before them, rippling in the snashine and gently washing the shore of the surround ing country; waiting for some civilized race to come and build their cities on its shores, and their ships to navigate its chan nels But little did these proud, unfortunate explorers think, as they gazed in admiration on the smoothness of the water, that the folorn sand hills which presented such a barren appearance, would in a few years be crowned with such a progressive American city as that of San Francisco. Nor were they aware of the fact that the interior abounded in gold fields, the production of which was to eventually anpport the world.

So from somber and desolated surroundings the goodly harbor has grawn, until it ranks with the foremost sea-ports of the world. It is well sheltered and has a deep broad channel, in which ships can ride and dock with safety. The ships coming in from the ocean, have to first pass through the "Golden Gate," which is a narrow strait about five miles long, leading from the ocean to the bay. On the left side it is walled with steep and rugged cliffs, which present a grim and majestic appearance, and still farther back lifting his head far above the surrounding country, is Mount Tamalpias. On the right hand side is Fort Point, with her frowning batteries pointing out over the water, at the incoming ships, so that none, but friends may pass within. It is here at night the slumbering city puts its trust, in the hands of the gatekeeper-the Fort, so she may not be intrusively surprised by any foes or armaments that may mean it harm. It is here we see the last rays of the setting san, as he slowly disappears behind the surging waves, into the horizon beyond,

The next most interesting object we observe is the Presidio, lying just behind Fort Point, covering considerable territory, which extends from the water's edge to a good distance above. It is a beautiful spot, with its gradually sloping hills, garlanded with grass, and the level plateaus, covered with little rows of cottages, looking very cosy and home-like, being environed by flowers and ahrubbery. The driveways are well graded and nicely kept, and afford a very pleasant drive throughout the grounds. In the distance Alcatraz and Fort Mason are plainly seen; they, too, belong to the Government. Alcatraz conlains thirty acres, strongly fortified, and can easily be seen from any northern part of the city. We now find the bay widening ont, and extending as far as the eye can

see. In a few moments more and we will be safely moored at one of the numerona docks that line the city front. A half day spent in watching the ships and schooners loading and discharging their cargoes, will be of much benefit to anyone who will stop long enough to consider that he is at the time gazing upon ships of every nationality; ships that have sailed for many long and dreary days, battling with angry seas and disastrous storms, that we might enjoy the luxuries of other climes; ships that are ready to take our varied products across the wide-spreading ocean to countries on the other side.

Improvements have been going on all he summer, including the addition of sevral new whorves, which consumed a vast amount of capital and labor. In addition to this, she had also the honor of successfully building and launching her first new erniser, which will be ready to deliver to the Navy Department about March 1st. It is named the Charleston, is a protected craisr of 3730 tous, three hundred feet long, auhorized by Congress March 3, 1887. It was built by the Union Iron Works, at cost of \$1,017,000. Was not launched until July last. The battery consists of two 8-inch and six 6-inch breech-loading rifles; four 6-pounders, two 3-pounders, one 1-ponnder, four rapid and two gattling guns, and her estimated speed is 18 knots with 7500 horse power.

It will not be long before this hartor

will be the rendezvons of all the whaling fleets, which hitherto has been New Bedford. But they are now finding out that this harbor is more convenient, and affords better opportunities in the repairing of their vessels and the laying up of provisions which is necessary for the long voyage.

"Ascele."

It is not generally known that the silk on an ear of green corn is a powerful and efficient remedy for dropsy, for bladder troubles and for the diseases of the kid neys. In the Louisville Medical News we find an account of the medical properties of corn-silk and the cures that have been effected by its use. The way to use it is to take two double-handfuls of fresh corn silk and boil in two gallons of water until but a gallon remains. Add angar to make a syrup. Drink a tumbler full of this thrice daily, and it will relieve dropay by increasing the flow of the prine Other diseases of the bladder and kidneys are benefited by the remedy, which is prompt, efficient, and grateful to the stomach. The treatment can be continued for months without dan-

In Manchester, England, there are a hundred places where horse meat is sold, and it is eagerly purchased by the poorer classes, it being 10 or 11 cents per pound, while beef is 25 cents.

#### PICKLING OLIVES.

Olive culture in this section is gradually working its way to the front. A Pomona Times reporter last week visited the scene of G. C. Mnir's olive pickling operations, at his place south of town. He has charge of the white orchard, east of town, and is progressing finely with the work of pickling. We saw there olives in all stages, from the newly picked to the thoroughly pickled, rich flavored. Before beginning operations Mr. Muir visited the Kimball Brothers, at National City, and the famous Elwood Cooper place at Santa Barbara, and studied the methods and plans which are employed in producing their well-known and popular branda of olives. Mr. Muir has now about 1,500 gallons put up in from two to tengallon kegs. He also has 1,000 gallons in thallye vats. The gatheriog of the entire crop from the seven acres will be completed this week. The yield will be about 3,000 gallons of pickled olives, and those who claim to be experts pronounce them to be far superior to the imported product. They are larga and possess that rich, nutty flavor which makes the olive so great a favorite with epicures. Some experiments have been made also in extracting oil, and have resulted most satisfactorily. The process of pickling olives, as well as of making oil, is tedious, requires closs attention, patience and work, yet Mr. Muir says he is satisfied that, counting all these things in, the olive will pay handsomely.

## EAST BOUND THROUGH FREIGHT.

Forwarded by the Southern Pacific Co., January, 1889.

FORWARDED FROM							IN F	OUNDS.
Articles.	SAN FRANCISCO	OARLAND,	Los Angeles.	Couron.	SACRAMENTO.	SAN JOSE.	STOCKTON.	MARTSVILL
Books and Stationery	16,220	3,460					******	
Beans	590,770	*******	445,280		287,580			
Barley	336,870	******		*******	192,020	1,236,570		255,420
Borax	152,170		********					
Brandy	17,090	*******	47,920		42,860	1,460		
Copper Cement	40,120	*******	415 47777	00.000	101.000	0.0.000	******	*******
Canned Goods	439,420 84,950		*******	82,600	104,370	283,630		1,190
China Merchandise	9,610		******	*****	********			*******
Chocolate	4,540	** *****		*****	********			
Clothing, California Manufactured	23,100				******			*******
Coffee, Green	457,890				*****			******
Drugs and Herbs	12,730				*********		*********	
Dry Goods	15,680	*******			*********			
EmptyPackages	80,330			****				
Fish Pickled				11111111				
Fruit, Dried	198,140		5,540	21,170	65,080	59,280	** *****	
" Green Deciduous	0.040		138,600	663,510				
Fuse	9,010		*******		2,100		******	
Glue	57,240		110		3,290	******		
Hides	4,650		87,950		21,300	*******	*******	
Hardware	71,740		29,020		******			*******
Honey	49,460				66,070		********	
Hope	00F,GF	54,420	********	*******			******	*******
Hair	10.620	04,420		*******			**** ***	*****
Leather	188,170	13,460		********	23,140	65,700		
Lumber	92,260			*******		00,100		*******
Miscellaneous	137,590	29,570	31,190	5,160	47,570	19,660	5,780	3,100
Machinery	6,310			*****		*********		
Merchandise, Asiatic (In bond)	253,220							
Mohair	4,790	** ** **				3,900	*****	
Mustard Seed	4,376	******						
Malt	21,230			*******		41114.515		*******
Nuts	4,030		21,310	*** ****	710	2,110	***** ***	
Oil Cake	144.250	******		*******	********	*** ****	*****	
Ores	144,200	*******		*******		****	********	
Powder			******		30,130	22,000		
Quicksliver			*** ****		30,130	22,000		
Kaislus	96,280		23,800		49,370			*******
Rice	6,130		20,000		10,010	*** ****	*****	
Salmon, Canned	87,150	*******				*** ****		
" Pickled	153,970					*****	*******	
Seed	18,200			*******		4,260		
Shingles	301,630	*****		*******	80,15€	1	*******	
Silk	532,860			*******				
Silk Goods	158,120							
Skine and Fure	14,600							
Sugar	4,191,190	*******	*******			******		*****
Syrup	141,850		*******		*******		*****	
Tobacco Leaf	1,127,860	*******		*******		1.100		
Vegetables	22,070	******	43.920	******	*******	1,190	*******	
Wille	1,697,130	2,740	128,880	7,530	363,630	40,750	3,300	*****
Wool, Australian	342,190	a-1140	4 - 4	1,000	00,000	40,100	0,000	
" Grease	453,560		33,520	********		10,280		
" l'ulled					04,280	********	*****	
" Scoured	358,250							
Woolen Goods	7,280			*******	2,440	******		
Totals		103 650	1,036,930	779,970	1,427,020	1,750,970		262,710

Recapitulation.

San Francisco, Oakland, 13,251,870 103,650

Los Angeles 1,036,931

1,427,020

San Jose. 1,750,970 Stockton, 19,080 Marraville. Colton. 202,710 779,070

Grand Tot 1. 18,625,020



ISSUED FORTNIOHTLY ON FRIOAY MORNING BY

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			Postag	e.				

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AGENTS	5.
ANAHEIM	MAX NEBELUNG
CLOVERDALE, Sonooia Co DIXON, Solano Co	A. R. STORY
DUNCAN'S MILLS, Sonoma Co	C. F. SLOAL
FRESNO	Golden Rule Bazas
GEY ERVILLE, Sonoma Co	D. LEPPO
HEALDSBURG, Sonoma Co. MAXWELL, Colusa Co	M. NACRAN
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#### FRIDAY...... MARCH 1, 1889

THE ASSISTANT Secretary of State, Hon. George L. Rives, transmits to the United States Department of Agriculture, a letter from Mr. James H. Smith, commercial agent of the United States at Mayence, relative to the wine product of the Rhine vinevards for the seasons of 1888. Much of it is said to be of a very inferior quality. reported to he almost as sour as vinegar, cansed by a very cool and rainy summer Just before and during the vintage, which was later than usual, the weather was fine, but the air was very frosty, and the grapes acquired an unpleasant taste.

In quantity, the vintage of 1888 was better than that of 1887, 1886, or 1885. A full vintage is about 70 hectoliters of wine per hectare, or about 748 gallons per acre, but there have been only two full vintages in the Rhinegan in the last forty years, namely, in the two seasons of 1874 and The last year of full quality was 1868, though it was approached in 1886, a year of small product. The wine of 1882 was of a remarkably poor quality.

Nearly all the grapes grown in the Rhinegau are of the Riesling variety. The Oesterreicher (Anstrian) is prominent among the other varieties.

The reports from Moselle indicate that the better class of vineyards did better than had been expected, but in poor situations the grapes, with the exception of carefully selected fruit, were better adapted for vinegar than wine.

In Rhenish Hesse must weights of 80° to 90° Oechsle were reached in the case of carefully selected fruit from first class vineyards, but in general weight did not exceed 66° to 70°. On the whole the vintage in this province is pronounced a failnre.

On the Nabe grapes grown in the best situations had as much as 18.2 per cent of angar with an acidity of 10, or in some cases as low as 8, per 1,000, but in general the vintage was small, about one-third of a crop, and the quality poor, the must weight ranging from 60° to 90° Oechsle:

This statement is not a favorable showing of the value of Rhine wines, in comparison with those of similar type made tages, but the lack of old wines up country; injudicious.

in California. The bland and sunny climate of the Pacific coast is in marked coutrast with the misty and comparatively sunless weather of the North Sea slopes. The development of sugar in the grapes of California is in much larger proportion than in those of the Rhine region, which can only ripen thoroughly, as a rule, on the steep slopes that stand out towards the sun and render his rays practically vertical to the surface; and the amount of acid developed is scarcely more than half the amount found in the Rhins grapes. It is only a sentiment, a memory of some of the better Rhenish vintages, a fancy begotten of a tasts acquired, not to mention snobbish preferences for whatever is foreign, that induces Americans to purchase, and pay a customs duty on wines of other countries that are almost as "sour as vinegar," requiring the modification of sugar to make them palatable, when our domestic wines of similar grades, from the same European grapes grown under vastly improved conditions, are both abundant and

BONFORT'S Wine and Spirit Circular, in latest issue, gives the following interesting information regarding the Oporto wine trade received from its agents in that city:

The total export of wine during the past year has been much the largest since the introduction of our wines to foreign countries, rather more than two centuries ago.

England still heads the list, and if value be considered, she is much our best enstomer. Brazil takes a large quantity, principally of consumo wine, and France, during the last four years, has also been a considerable consumer of the inferior grades owing chiefly to the failure of her own vintages through the ravages of the phylloxera.

The following is from our vintage report of November 14, last: The vintage this year was quite a fortnight later in commencing than last year, and owing to there being a scarcity of labor, it has occupied a considerably longer time than usual. Many farmers have a large increase, which has agreeably surprised them, while a few others have very little, there being great discrepancies. Taking into account, however, the production of the inferior situations, which is not mature enough this year to be used for export, we come to the conclusion that the quantity, on the whole, will not be very much in excess of that of last. The quality cannot be good, for we had a cold spring and summer, and just before the vintage there were three days of very heavy rain. The vineyards, however, with good exposures have given some nice, pretty wines. Encouraged by the high prices which have been ruling for the last three years, and by the success gained by those who have treated their vines on modern principles, a considerable number of farmers have replanted parts of their old vine-

The demand is still for wines of a light crisp character, which will develop rapidly, and which can be consumed at an early date.

In an interesting article under the heading of "The Donro," in Ridley's Monthly Wine and Spirit Trade Circular, which fully confirms what we wrote last year as to old wines, is the following:

"The chief cifficulty with which the Oporto trade has now to contend is, not any scarcity in the yields of recent vinthese seem almost exhausted. There, of course, still remain large reserves in the shipper's own Armazens, sufficient for their requirements for some time to come, but inasmuch as the same cannot be replaced at old rates, the shipment of certain marks at present prices and quality becomes a serious question."

THERE SHOULD be no hesitation in appropraiting the sum desired for the austenance of the Viticultural Commission. The amount is small, in comparison with the benefit the State at large derives from the labors of the board.

The idea of incorporating horticultnie, agriculture and viticulture under the control of a single bureau is absurd, and can only be considered as an attempt to create another political office. Each branch of the industry is a : cience in itself, requiring years of faithful and constant study to master sufficiently to obtain a standard of proficiency under which the labor of others can be directed with a certain degree of confidence. Every one is not competent to fill such a position, and those who are, should certainly be considered entitled to pay for their services.

This has never been the case with the men who have served faithfully and laboriously for years in the Viticultural intersts of the State. Outside of a few clerical positions, the working members of the Commission receive no salaries.

If a meeting of the board is retired, the Commissioner for a district—say at Los Angeles-is notified to attend, he is expected not only to give his time, but also to go down in his packet for fare to San Francisco and hotel bills.

There should be no discrimination in favor of particular industries. It does not follow that because a man may have been brought up to handle a pick and shovel in the drifts of a quartz mine, that he is justified in sneering at another who may prefer to watch his graps viues budding in faithful promise of the coming harvest of fruit and wine.

The more peaceful pursuits of life interest the many, and from time immemorial, they have received attention and careful consideration from law-makers of every pation

It should further be remembered in dealing with the opposition to this bill that Camminetti, as a salaried official of a dedepartment at the State University, is directly interested in belittling the Commission to the end of bringing about its absorption by the Berkeley institution. This gentleman should have been the last member of the Assembly to accept a position on any Committee appointed to investigate and report on the merits of the Commission. It is also a noteworthy fact that his was the only voice raised against the wine industry, and the institution which has for years been working hand-in-hand with the grape-growers, for the development of one of the most important resources of California.

The gentleman at the head of the Experimental Station at Berkeley, would certainly be better employed attending to his official Permitting his clerk, whose services in civil life are valued at \$70 a month, to interfere with the business of an organization, of which it is reasonable to presnme he is jealons, is both impolitic and

M. SANCHEZ FACIO, civil engineer and special inspector for Lower California, appointed by the Mexican government, has issued a pumphlet entitled "The Truth About Lower California", which gives particulars of the contract made by and between the Mexican government and the "Mexican International Company of Colonization," as demonstrated by the official reports of the author. It also refers at some length to alleged frauds committed by the International Company under the protection and sanction of the present administration of Mexico.

"The selling of the National territory to a company at the rate of eight cents an acre,' he says, "through the compliance of certain insignificant stipulations, and not declaring forfeited the contract upon which the sale is hased, in spite of the manifest demonstration that it has been violated, and that the rights of many citizens have been trampled upon, is equivalent to a deliberate attack upon the constitution of the country and unfetters the nation in its obedience." Facio further charges that the International Company has swindled Messra Dickie and Darrah in selling them on February 12, 1886, the Tia Juana Valley, which is alien property, and afterwards, in September, 1886, attempted to swindle Yra Carpenter by offering to dispose of the same property to him. He also tells how, under the "deceit and oppression" of the company, San Quintin, which in November, 1887, was a flourishing colony of between 300 and 400 people, is now almost depopu-

THE DELINQUENT tax list of Los Angeles county for the fiscal year 1888-89, amounts to about \$500,000. This is principally dos on outside lands, where future cities were mapped out at the rate of one hundred a day during the boom, as health resorts for Eastern tenderfoot. olive and myrtle cuttings have not yet marked out the graceful windings of the avenues and choice villa sites, an untimely cold spell, which froze the mercury and turned oranges into miniature cannon balls, frightening the one-lunged residents so badly, that with one accord, they hied them to a more equable clime in the northern citrus belt, content to save their lives at the expense of cash deposit. Prairie dog-have again assumed possession of their former haunts, from which temporarily banished by the surveying cohorts, while the financiers of the county figure out some means of salvation from mortgages based on inflated values.

THE BOARD of Trustees of the Mechanica' Institute makes the preliminary announcement, that the twenty-fourth Industrial Exposition will open at the Pavilion, on Larkin street, on Tuesday, August 27th, 1889, closing on October 5th, A carefully revised premium list, with the rules and regulations will be ready for distribution at an early day.

THE SWEDISH Rectifying Company which " has been a powerful competitor of German shippers in Spain, and which recently dropped \$750,000 owing to unfavorable changes in Spanish regulations on alcohol, has been re-organized with a capital of three times as large and will continue to rectify high wines from Russia and the German provinces.

Subscribe for the MERCHANT.

by the Statistician of the Department of Agriculture, the season has not been favorable to cane sugar and production is limited in consequence. Sagar planters are now considering with interest the evolution in sugar making promised by the diffusion process. Hitherto the business has illustrated conspicuously the wastes of American agriculture, as sesreely more than half of the saccharine contents of the plant has been obtained during a century of development of the industry. The sorghum erop varies in different sections, but may be considered a medium crop. It is a valuable resource for syrup for local use, supplementing the supply, though little used in cities. It has not yet paid its way as a sugar plant, no factories having as yet proved self-sustaining without government aid. A hopeful feeling is prevalent that, through diffusion and other aids to mannfacture, its ulfimate success will be assured. Beet sugar is apparently on the eve of extensive production in California, if the enterprise of Claus Spreekels is as successful as it is represented. One factory that at Alvarado, has been in successful operation there for a dozen years.

AT A BECENT meeting of Napa wine men, the subject of the Viticultural Commission was thoroughly canvessed. The work of the Commission in the past was commended in the highest terms, and the belief expressed that the wine men of the State could not afford to let it be abandoned. In view of the opposition likely to be encountered, especially at the hands of the Governor, it was deemed advisable to draft a resolution and present it to the Assembly and Senate, asking for the appropriation of \$17,500, necessary for the sustenance of the Commission. A committee appointed for the purpose, presented the following resolution which was unanimously adopted :

Resolved, That our representatives in the Senate and Assembly be instructed and requested to arge the usual appropriation to tht State Viticultural Commission, and if possible increase the same, believing as we do that it is the duty of the State to assist an industry destined to be in the near future one of the greatest factors in the wealth and welfare of the State of California.

A NEW CULTIVATOR is now finding much favor among the vineyardists in the central counties of the State. It consists of a sories of steel disks with serrated edges. These disks are saucer shaped, and are fastened to and turn with the axle. The axls is divided in the middle by a hinge, so that the two sections reat at an angle, with spex pointing to the rear. The edges of the circular disks dig up and turn the soil somewhat as a plow does, only upon a smaller scale. As the axle is in sections, hinged, the angle may be reduced as to make the width taken in as narrow as may be wished. So the machine can work between even the parrowest rows of vines. The one on exhibition turned a strip of ground five feet wide; and about seven acres per day are cultivated with it. There are strips of iron suspended between the disks in such a way as to act as clod breakers, and a seeder is attached when so ordered. It is a pulverizer-a sort of compromise between a plow and a harrow, and, as may readily be seen, is very useful and practical.

THE IMPORTATIONS Of foreign wines into the port of New York during the month of Japuary, amounts to 87,317 gallona and explosion.

According to the annual report issued by the Statistician of the Department of griculture, the season has not been favorable to came sugar and production is limited consequence. Sugar planters are now insidering with interest the evolution in larger making promised by the diffusion rocess. Hitherto the business has illustrated conspicuously the wastes of American agriculture, as sesreely more than half I the ssecharine contents of the plant has

The New York agents of a celebrated importing firm, in a little book just published called "A Bottle of Champagne," say that in regard to the temperature at which the wines hould be kept and served, grat ignorance prevails in the United States. A wine of fine quality should never be iced, unless champagne frapped is wanted, to a temperature below 30° Pahr., nor mixed with ice or iced water, for excessive cold destroys both the bouquet and the delicate vinous flavor, while its natural lightness will not admit of dilution.

The fourth annual review of the honey and becswax business of California by Schacht, Lamcke & Steiner of this city, contains much interesting information to producers and consumers of these articles. In 1888 there were between 50,000 and 60,000 hives in the State, from which were sold 3,000,000 pounds of extracted honey and 500,000 pounds of comb honey. Of this amount, 875,000 went to England and Germany by water, and 1,000,000 pounds were shipped overland to New York. The review concludes from its statistics that 4,000,000 pounds of California honey can be sold at a satisfactory profit to the producer yearly.

Accention to the Weiner Medicinischen Blactter, Dr. Lewin describes a new local aneisthetic destined to supplant cocaine. It is of African origin, and is found in the shape of a red mass called hayah. A minute portion placed upon the tongue er eye renders the organ interly devoid of sensation. Chemically it is a glucoside. The source of this wonderful medicine is said to be a plant described by Octtel in the early part of this century under the name of Erythroftenin judiciate, from its use in the suvenge trials by the ordeal of poison.—Pucific Medical and Surgical Journal.

ALFRED SANDERSON, the well-known Wind Growers' and Importer agent, of 196 La Salle Street, Chicago, has entered into partnership relations with Mr. Alfred E. Dore, the firm hereafter transacting business under the name of Sauderson & Dore, Both gentlemen are well and favorably known among the wine growers of California.

We extend to the new firm our beat wishes for its success.

A STRANGE accident took place recently in New York, resulting in the death of two men. They were engaged in the manufacture of cream of fartar, attending a centrifugal, used for drying the various materials of which it is composed. The machine was making 1,350 revolutions a minute, when it exploded, spreading death and frightful injuries among the employees. So far no one seems able to account for the cause of the explosion.

A COUPLE of interesting specimens have just been received at the rooms of the Viticultural Commission. One of these is the stump and roots of a vine which had did from the black-rot, and another is a graft of a Lemon acion upon a Mission root that was affected with phylloxera. The parent roots are thoroughly diseased, and scion has sent down a root of its own in search of austenance.

The value of wines and liquors exported from the Connsular district of Lyons to the United States during the month of December 1888, was \$6,309.97, againgst shipments valued at \$9,553.70 during the same month in 1887. The total exports for the quarter of 1888, were valued at \$37,006.10 against \$23,770.81 in 1887, an increase during 1888 of \$13,235.29

Health says the latest cure for that annoying and very common affection, perspiring feet, is that pronounced by the German army surgeons, and ordered by the War Minister of Germany to be kept in the army medical stores for the use of soldiers suffering from foot ailment, or from soreness in riding. The preparation is two-parts of pure salicylic acid combined with 100 parts of best mutton suct, and this ointment is applied to the feet.

The production of alcohol in France is considerably larger than last year. Since the 1st of October it has amounted to 340, 900 barrels of 46 American gallons, of 1880, against 316,000 barrels last year. The consumption during the same months has only increased 12,300 barrels.

#### WHOLESALE MARKET.

Quotations given are for large lots to the whole sale traje.

CALIFORNIA RAISINS.

Halves, Quarters and Eighths, 25, 50 and 75 cents bigher respectively than whole box prices.

London Lave	rs, choice pe	r box	82 00d	
31 11	faucy "		2 Office 2	25
Lavers, per b	OX		ex 1	75
Loose Muscal	tels, common	, per box	1 40 or 1	50
10 30	choice,		(et 1	75
24 11	fancy,	1	(et 2	HU
Unstemmed	" in sacks.	per Ib	4 lage c	Бc
Stemmed	11 11	11	Sur 5	تاريا
Sectiless	98 88		41100	Бc
14	" per 20	-D. box	90kg	
		in boxes, W lb.		
** ,	bleached,			
	CANNE	GRAPES.		

Grapes, Muscat, 24, 28s. \$ 1 40ar 1 50. Galls. 4 50c at 3 db. tins 2 25ar 2 45

#### Sugar Quantitions.

California Sugar Refinery price list dated January 30th; Circle A. Pat Cube, 634c Circle A Crushed, 634c; Fine Crushed, 634c; Extra Powdered, 634c; Dry Granulated, 634c; Confectioners' Circle A, 634c; Extra C, 534c; Golden C, 47sc; Star Drips Syrup, in bbls., 17½c; bf do, 20c; 5-gall kegs 25c; 1 gall tins, 35c per gallon.

Price list of the American Sugar Refinery dated January 30th: Extra Fine Cube, in bbls, 654c; Circle A, Crushed, 654c; Fine Crushed, 654c; Powdered, 654c; Extra Fine Powdered, 7c; Dry Granulated, XX 654c, Dry Granulated, 654c; Confectioners' Curcle A, 654c; Extra C, 554c; Golden C, 454c, American Golden Syrup, in bbls, 20c per gallon.

Subscriba for the MERCHANT,

#### ABSENTHE.

A recent number of Le Pantheon de l'Industrie of Paris contains the following interesting account:

"The name of Pernod is so intimately associated with the origin and progress of the industry of absinthe, that it is difficult to separate the history of the one from the other.

The clixir of absinthe, the name by which the product was known of first, was a pharmaceutical preparation, used in affections of the digestive organs and the bladder. It is said that the inventor was a French doctor by the name of Ordinaire.

The district of Pontarlier is now represented in the Chamber of Deputies by one of Mr. Ordinaire's direct descendants.

Another authority says that the clixir of absinthe was first known in France a few miles from Pontarlier, and that it was first made by the monks of the Monlbenoit monastery; so that it is probable that Dr. Ordinaire obtained the precious receipt from the monks.

Exiled into Switzerland for political reasons, he established himself at Convet, and practiced there medicine and pharmacy.

The Armoise absinthe is a very common plant in this part of the country; so the doctor applied himself to the preparation of the clixir, whose virtues he exaggerated without doubt, for he gave it as a panacea for all evils. It did, however, possess very remarkable curative properties, which procured for it a great success.

After the doctor's death, his secret, carefully kept until then, passed into the hands of his governess, who sold it to the daughters of Lieutenant Henriot. These ladies seem to have devoted themselves to the regular manufacture of the clivir, but on a small scale.

Cultivating the precious plant in their own garden, distilling it with their own hands, they delivered occasional pots of the elixir to itinerant peddlers, who distributed them among the population for many milea around.

The secret of the elixir of absinthe became in 1797 the property of Henry Lonis Pernod, grandfather of Louis Aifred Pernod, the present head of the house. The elixir, which soon afterward received the name of extract, was not at first manufactured in large quantities. The building where the new-born industry was installed is still to be seen at Couvet; it is a mere hovel pierced by two skylights for windows and measuring all told eight metres in length by four metres in width and four metres in height. This modest edifice, eradle of the magnificent industry now so well known, serves at present as the washhonse for the hotel l'Ecu de France. The invalids, who enjoyed the effects of the elixir of absinthe, did not fail to perceive that it possessed an aroma and flavor much more agreeable than certain cordials of excellent repute. They scenstomed themselves to drink it without sctually needing it; people in health imitated them, and the reputation of the clixir, or extract, extended far beyond the limits of the Canton of Neuchatel

Owing to the growing taste of the French for the Swiss cordial, Henry Louis Pernod resolved, as the French treasury was levying very high duties on Swiss absinthe, to found a factory at Pontarlier, without abandoning the one at Couvet," KRUG CHARLES.
Krug Station, St. Heleoa, Napa Co., Cal. Producer of fine Wines and Brandies.



7 & 19 FREMONT ST., SAN FRANCISCO

HENRY WAAS, Wood Turner.



Wooden Bungs, Taps, Plugs, etc., Oak Bungs, Soft and Hard Wine Plugs, Soft and Hard Tap Plugs, Wine Samplers, Bung Starters, etc.

720 MINNA ST., bst. Eighth and Ninth, S. F [Established Since 1856

#### RESISTANT VINES.

A CHOICE LOT OF

RIPARIA CUTTINGS

APPLY TO

H. W. CRABB

OAKVILLE NAPA CO., CAL

#### CLIMAX SPRAY PUMPS.

Best and bighest endorsed Spray Pumps on sale. Unequalled for durability, convenience, and ease of working. Send for circulars and prices of different

Pacific Cyclone Spray Tips, Climax Bamboo Extensions. MANUFACTURED ONLY SY

e Appara us M'f'g Company, California Street, San Francisco. CUT THIS OUT. Cal. Fire

#### SALE FARM FOR

Two hundred acres in Sonoma County ten minutes drive from railroad etation. Forty acres planted in the finest variety of vines. The balance rich river bottom, and rolling land capable of the highest cultivation. Several never failing springs and plenty of oak and redwood timber on the property. 'Good house, large barn, and out buildings. Scenery, climate and roads unexcelled. Good fishing and hunting in the neighborhood all the year round. One of the most elegant and profitable suburban homes in Northern California.

Inquire of "W. H.," office of the San Francisco Merchant.

#### BUSINESS COLLEGE!

24 Post St., San Francisco.

FOR SEVENTY-FIVE DOLLARS THIS COLLEGE A structs in Shorthand, Typewriting, Bookkeeping, Telegraph, Penmanship, Drawing, all the English Branchea, and Everything pertaining to usiness, for eix tull months. We have sixteen teachers, and give individual instruction to all our tupils. Our school has its graduates in every part of the State,

Send for Circular.

E. P. HEALD, President

#### HERRMANN & CO., HOP MERCHANTS.

Importers and Dealers in

CORKS, BREWERS' AND BOTTLERS' SUPPLIES, SODA WATER AND WINE DEALERS' MATERIALS.

ALEX. FRIES' & BROS. COGNAC OILS ESSENCES AND FLAVORS.

313 SACHAMENTO ST.

San Empelsee

## Graham Paper Co.

OF ST. LOUIS.

W. G. Richardson,

PACIFIC COAST MANAGER.

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SAN FRANCISCO, - - CALIFORNIA.

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PIONEER WINE HOUSE.

Established 1854.

Growers of and Dealers In

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### WINES & BRANDIES

VINEYARDS IN

SONOMA COUNTY, LOS ANGELES COUNTY. MERCED Co. AND FRESNO Co.

626 MONTCOMERY ST., San Francisco.

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#### WHITE ADRIATIC FIG TREES AND CUTTINGS.

FRESNO GROWN TAHITI DRANGE SEEDLINGS,

CABERNET FRANC.
CABERNET SAUVIGNON,
MATARO and RIPARIA CARIGNANE,
CUITINGS \$6 per Thousand.
GRAPE ROOTS AT REASONABLE BATES.

M. DENICKE, - - FRESNO, CAL.

Packed Figs for sale at Tillman & Bendel, Clay and Battery Sts., S. F.

The following is taken from a letter written to Mr. Denicke, by John Rock the wellknown nurseryman and horticulturist of San Jose:

M. Denicke, Fresno: DEAR SIR-The figs sent to me to San Jose are very fine, and nothing has yet been produced in California to come any way nesr them. \* \* Enclosed are orders for twelve additional cases, Very truly, JOHN ROCK.

San Jose, January 7, 1889.

## NAPA

FRUIT AND NUT TREES

(Large Assortment);

-CRAPE VINES-

RESISTANT GRALE VINE STOCK, (Very Fine):

Ornamental Trees, Olive Trees,

ORANGE TREES,

AND GENERAL NURSERY STOCK.

All Unirrigated and Free from Disease. The

Address,

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NAPA (ITY, - - CALIFORNIA.

#### THE RISDON

IRON AND LOCOMOTIVE WORKS.

Cor. Beale & Howard Sis., S. F.

W. H. TAYLOR, Prest.

R. S. MOORE, Supt

BUILDERS OF STEAM MACHINERY

IN ALL ITS BRANCHES

Steamboat Steamship Land Engines and BOILERS, High Pressure or Compound.

STEAM VESSELS of all kinds built complete, with Hulls of Wood, Iron or Composite.

STEAM BOILERS. Particular attention given to the quality of the material and workmanship, and none but first-class work produced.

SUGAR MILLS AND SUGAR-MAKING MACHINERY

made after the most approved plans. Also, all Boller Iron Work connected therewith. PUMPS. Direct Acting Pumps, for irrigation or City Water Works purposes, built with the celebrated Davy Valve Motion, superior to any other Pump

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### NITROGENOUS \* SUPERPHOSPHATES.I

--- OF THE----

Mexican Phosphate & Sulphur Co.

A Genuine Fertilizer for Vines, Trees, Cereals, &c.

This valuable manure has received the highest testimonials in Northern Europe, where it has been used for the past two years, and is now offered to the Pacific Coast Grower with perfect confidence in its

Full particulars can be had at the office of the undersigned, and pamphlets mailed to address on application.

For Sale by

M. Newhall & Co.

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San Francisco Savings union, 532 California atreet, corner Webb.

For the half year ending with 31st of December, 1888, a dividend has been declared at the rate of five (5) per cent per annum on term deposits, and four and one-sixth (4 1-6) per cent per annum on ordi nary deposits, free of taxes, payable on and after Wednesday, January 2, 1889.

LOVELL WHITE, Cashler.

The German Savings and Loan Society 526 California Street.

DIVIDENU NOTICE.

For the half-year ending December 31, 1888, a dividend has been declared at the rate of five and one-tenth (51-10) per cent per annum on Term Deposits, and four and one-fourth (3½) per cent per annum on Ordinary Deposits. Payable on and after WEDNESDAY, January 2, 1889.

OEO, TOURNY, Secretary.

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Open for Ladies and Gentlemen daily from 9 A. M. till 10 P. M. Admission 25 Cts. Catalogue Free. Go and learn how to avoid disease and how wonderfully you are made. Consultation and treatment personally or by letter on weakness and all diseases of men. Private office, 211 Geary street. Send forbook.



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Irrigating Pumps,

We also carry in stock the largest line of

In the UNITED STATES.

Consisting of Wood and Iron Working Machinery. Pumps of Every Description.

ENGINES AND BOILERS A SPECIALTY.

Also. Gregory's Celebrated Spraying Pump, for orchards. The only one ever recom-mended by the State Horticultural Society

C. S. HALET' Secretary.

#### NATIVE WINE SHIPMENTS SEA. OUR

PER P. M. S. S. CO'S STEAMER SAN JUAN, FEB. 13, 1889.

#### TO NEW YORK.

	1	l		
MARKS,	SHIPPERA.	PACEAGES AND CONTENTS.	GALLONS	VALUR
Thu	A I Dans	3 barrels Wine	8.1	872
T P GRev L J D		1 cask Wine	61	21
of		I barrel Wine	50	25
A V Co	C Schilling & Co	285 barrels Wine.	13,482	4.325
J A C	Seminar Control	I Lairel Wine		28
W K	4.1	3 octaves Wine		67
II T	"	I harrel Wine	47	25
M & Co	Overland F and P Co.	S barrels Wine		
**	. "	2 kegs Wine	512	239
AGC		15 barrels Wine		202
A C	G Capurro	2 terrels Wine	974	88 500
E V B in diamond	B Dreytus & Cb	35 barrels Wine	1.777	571
A V.	achman & Jacon	15 harrels Wine	760	
1. 6	1	51 barrel Wine	1400	2.10
L K	11	1 half-barrel Wine	2,622	1.055
K & F	Keller & Frohling	227 learnels Wine	11.461	6,300
16	**	25 larrels Wine	1,280	768
J P	Trapoli, Berges & Co	Hi barrels Wine	765	235
0		11 barrels Wine)		
11	7+	2 half-barrels Wine 1	713	
L& C		5 berrels Wine	236	189
W in diamond		10 harrels Wine	172	378
			40.051	015.07
Total amount of Wine			130,251	815,877

#### TO CENTRAL AMERICA.

B	H, Champerico B Dreyfus & Co 114 kegs Wine	140	\$125
B	B. La Libertad Bloom, Baruch & Co. 10 cases Wine		40 35
	2 barrels Wine	49	35
C	H. San Juao del Sur Horace Flavis & Co 2 's barre's Wine		14 42
	1 barrel Wine		42
	F P. La Libertad J T Wright & Co 6 kegs Wine		45
L	& S. Champerico Schwartz Bres 60 cases Nine		282
B	H. Champerico		326
	Total amount of Wine, 140 cases and	2981	909

#### TO MEXICO.

ш		
3		31 832
B	F & Co. San Blas	3 106 2 73
а	L. Acapulco	2 73
п	"   6 half-barrels Wine	
		83
Œ	D O, Manzanlila Cabrera, Roma & Co. 1 kegs Wine 8	81 80 80 475
	G & Co, Tonala 10 cases Wine	80 ]
R	P. San Benito	.0 475
D	& M. San Blas Thannhauser & Co I kegs Wine 6	
R	H. San Benito 15 barrels Wine 16	9 124
1		
1	Total amount of Wine, 10 cases and 1,24	81,193



#### IOWELL MOUNTAIN VINEYARDS

Chief Executive Officer Wheeler, of the tate Viticultural Commission, recently in ompany with Commissioner Krug, visited as Howell mountain vineyards, with a iew of examining some vines that it was arcd were affected by disease, Theeler made a careful examination of any of the vineyards on the mountain, ut failed to find any trace of disease of any lad. He pronounces the vines of that ection in a healthy and promising condion. The spots that it was feared were ffected, were in places where trees had een taken out, and the sap from the roots nat remained in the ground had soured the oil, temporarily checking the growth of the ne. The earth, he thought, would soon sorb this sap and in a short time its effect ould pass away, leaving no permanent jury. Mr. Wheeler is cuthusiastic over owell mountain wines, which he proproces very superior, especially the red ines, which have better color than any has seen elsewhere this season,-St. elena Star.

LOOK OUT FOR HIM .- For the protection of hotel keepers and others, Messrs, Thurber, Whyland & Co. request us to state that one F. N Tschudi, traveling in the West, is not authorized to represent them. -- American Grocer.



#### CHOICE OLIVE TREES.

Nevadlllo Blanco, Picholine And Other New Varieties. One to three feet high,

JOHN COOK, Nurseryman and Florist, Fast Berkelty, Alameda Co., Cal

## Description of the Blueberry.

The Blueberry is a valuable fruit, and is a reliable fruit to grow in our northern States where the more tender varieties of fruits winter-kill. It is perfectly hardy, having stood 40 degrees below zero without showing any injury to the most tender buds. It ripens in this latitude about the 1st of July, and is borne in clusters like currants; shape, round; reddish purple at first, but becomes a bluish black when fully ripened. The flavor is equal to the raspherry, a very mild, rich sub-acid, pronounced by most people delicious. It may be served with sugar and cream or cooked sance, and is aplendid for winter use. The plent seems to flourish in all soils, and is a prolific hearer. It grows very stocky and makes a nice hedge. The shinning dark green leaves and the blue fruit making a pleasing contrast. The demand for the fruit is great, and usually brings 15 cents per quart. They commence bearing the first year after setting out, and yields a full crop the second and third year after setting out. They are propagated from suckers and root cuttings. The plant is about the height and size of the currant bush, and very stocky, holding the fruit well up from the ground. Plants should be act in the fall and spring, in rows two or three feet apart, and five or six feet between the rows, making a perfect hedge, and no grass or weeds should be allowed to grow between rows.

PRICE LIST:

1 Dozen Plants by mail, 60 cents. 2 Dozen Plants by mail, \$1.00 100 Plants by Express, 1,000 Plants by ex. or freight \$15.00

How to seed money:—I would prefer to have money sent by American Express order, all sums of \$5.00 mid under, cost only 5 cents, and if order is lost, money will be promptly refunded to sender. If not convenient to obtain express order, money can be sent by registered letter or post office money order or postal note, drawn on Portland, Mich. Postage stamps will not be accepted only from our customers that cannot obtain an express order—only those of one cent denomination wanted.

Plants are carefully packed in damp moss and delivered to express or freight office, for which I make no extra charge. Address

DELOS STAPLES, Portland, Ionia Co., Mich.

INCORPORATED 1584.

460 ACHES.

## TREES AND PLANTS. CALIFORNIA NURSERY CO.,

NILES, ALAMEDA COUNTY, CAL.

#### LARGEST STOCK ON THE PACIFIC COAST.

Fruit Trees, Olives, Oranges and Lemons, Nut Trees, Wine and Table Grapes, Berry Plants, Shade Trees, Evergreens, Shrubs, Rosas, Etc., Etc., Etc.

FOR COMPLETE LIST, SEND FOR OUR NEW CATALOGUE

JOHN ROCK, Manager

CALIFORNIA NURSERY CO.

Niles, Alameda County, Cal.

## JOHNSON - LOCKE MERCANTILE COMPANY,

COMMISSION MERCHANTS.

SAN FRANCISCO.

### Sole Agents Pacific Coast.

Royal Baking Powder.

Kingsford's Oswego Starch, Walter Baker & Co's Chocolates and Cocoa John Dwight & Co's Soda.

We will offer a full line of other Grecers' articles shortly.

## SAVE MONEY

By Ordering Your Groceries from

# CLUFF BROTHERS

Largest and Cheapest Cash Grocers on the Pacific Coast.

## ALL GOODS PACKED AND SHIPPED FREI

Send your address and have their Monthly Price List mailed regularly to you.

FSEND A TRIAL ORDER

## CLUFF BROTHERS,

9 & 11 Montgomery Ave.

40 & 42 Fourth Street.

409 & 411 Montgomery Av

401 Hayes Street.

SAN FRANCISCO, CAL.

#### THE SCALE BUG

A scale-bug is a bark-louse. A barkonie is a coccus b longing to the aub-order occide of the order homopters. They ire peculiar in the female never having wings, only being able to crawl; therefore heir spread from tree to tree, and orchard to orchard, is necessarily slow, except when carri d by birds, winds, and even on other ins cts. The mal s are highly organzed delicate creatures, provided with ample wings. They are peculiar in the adult state by having no feeding or digesting orgens, their only part in life being simply to impregnate the femule, but as a larva and crysalid they feed on the same as the female. Some of these sentes are two or three brood d in the year, others only one; the habits of all are very much the same. When the young bark-lice hatch from the egg they are provided with six legs with which they can travel around briskly, and being very minute and light are often carri d from tree to tree by winds, being so small they are seldom notic d. The young lice, after moving around freely for a time, select a suitable place, insert their beak ipto the cuticle of the bark, leaf or fruit, and begin feeding by suction, as we call it, tion shed their larval skin, and all their members, such as legs, etc., assuming n grab form and th n remain stationary; the females at least during the rest of their existence, gradually growing over themselves a scale covering for protection. Such scales are generally of the color of the bark of the tree, rendering them inconspicuous, but in other cases markedly different, such as white, red, etc. In due time the male scales, which are always much smaller than the female, gives forth the perfect winged males, which perform their functions, then die at once. After impregnation the females increase in bulk very fast, this bulk being in the form of eggs, which in some species are produced in great numbers-600 to 800, in others, 50 to 150, and 200 to 300. These in due time hatch out minute bark-lice to go through the cycle.-D. B. Weir in Orchard and Garden.

#### OLIVE OIL IMITATIONS

The following act to "prohibit deception in the manufacture, importation or sale of oil" was introduced in the State S nate on January 14th.

Section I. Whoever, by himself or by his agents manufactures, imports, sel's, expoals for sale, or has in his possession with intent to aell, any oil aubstance or compound made in imitation or semblance of olive vil, or as a substitut for olive oil, and not exclusively and wholly pure olive oil, o. containing any fats, oils or grease or other foreign aubstances, unless the words "im itation olive oil," or "adulterated olive oil" are stamped, labeled or marked in printed letters of plain roman type, not less than one inch in I ngth, so that said words can not be easily defaced, upon the tip and side of every cask, can, bottle, package or other rec ptacle containing said article, substance or compound.

Section 2. Whoever, by himself or by h's ag nts, violates the provisions of this act, in whole or in part, s'all be guilty of a misdemeanor, and shall be punished for each and every a parate off use by a fine of not less than one handred dollars nor more than one thousand dollars, or by imprison-

ment in the county jail of the county wherein said person or persons shall be tried, of not less than one month nor more than one year, or by both, such time and imprisonment in the decretion of the court pronouncing the sentence, one-half of which fine shall be pail to the person or persons farnishing the evidence of the viola ion of the provisions of this fact and the residue shall be applied to the public school fund well enough for an occasional lone squirrel, of the said county.

Section 3. C u.ts of general sessions of the peace shall have jurisdiction of all cases arising under this act, and their jurisdiction is hereby extended so as to enable hem to enforce the penalty her by im-

S ction 4. This act shall take off ct immediately.

#### TO WINE -MAKERS!

The undersigned beg to call the attention of Wine Makers, Dealers, etc., to the sup-erior merits of Chevallier-Appert's

### OENOTANNIN."

as a corrective and a parifier to all light Table Wines, White and Red.

Its merits are b st stated as follows :

#### Being used at the time of crushing the grapes into must:

It regulates and secures the perfect fermentation of the must into wine.

It combines with the ferments, mycodermes and albuminoids, etc., and precipitates all impurities, insoluble,

It concentrates and diminishes the lees, leaving a larger quantity of pure

The wine being freed of all disturbing elements, it promotes its per-fect development of color and bouquet, of natural strength and aroma.

## 11. Being used on fermented wines before the second Clarifi-

It calms and regulates the aecond termentation of young wines.

It restores the natural tannin of the wines which may have been lost or impaired by imperfect fermentation or

It strengthens and developes their natural color and aroma, preparing and assisting them for thorough clarification, promoting their development and improvement in quality and aroma, and ripening them for earlier

Directions for Use on Application.

For sale in tins of 21-5 lbs. each, by

#### CHARLES MEINECKE & CO., SOLE AGENTS.

#### KILLING SQUIRRELS

This is the very best time of the year to kill off these pests. A little expense in this month will save much time and trouble

Many ways have been used in this State to keep the squirrel down. Traps will do but require altogether too much labor when they are present in quantity. Two or three years ago the "smokers" became very popular, and iron cylinders of a great many descriptions; all furnished with some apparatus for blowing smoke into the squirrel holes, were off-red in every direction. The lightning-like way in which all these contrivances have disappeared is proof enough of their ineffectiveness. As one man put the case, "it was far simpler to dig them out and kill th m with a club." It required two men to run a smoker with any degree of speed, and what with carting around the machine, the fuel, and other incidentals, very little progress could be made. In addition to this, the machines generally burnt out after about three weeks use, and cost more to repair them than they ever were worth in the first place.

The carbon bisulphide gas is remarkably effective, and there is no possible dauger to atock from its use-with the possible ex ception of the man who used it. It is qu te disagreeable to usa however, is very costly, and can be very easily wasted.

We have never found anything give so much satisfaction in the long run as the pr pared poison wheat. If this is used in reasonable quantities, either on the very edge or just inside the squirrel-hole, the squirrels will eat greedily; there is little risk of killing off birds and practically no risk at all of injuring live atock, as the grain soon becomes so scattered that what any one animal bigger than a squirrel could m dicinal dose. The material is cheap; it can be distributed by one man, and does the work as completely as anything we know of. There are several brands on the market, some of which are perfectly useless. At the Southern farm we have generally used Wakelee's, and it has done very good work.-San Leandro Reporter,

THE MERCHAT is the only recognized 314 Sacramento St., San Francisco wine journal in the State.

#### rich of the Quito Olive Farm, stated yesterday that he will exhibit this year five varieties of olive oil, labeled similiar to the Italian method of designation according to seasons. There will be the oil made from the olive wh a it is first brought in from the trees, fresh and green; also that made from oliven

The San Jose Mercury says: E. E. Good-

which | ave been dried. The two oils differ as to a slightly bitter flavor that is found in one and not in the other. Mr. Goodrich further stated that he had applied to the United States Government for authority to place samples of the Quito olive oil in the American exhibit at the Paris Exposition and have it brought into competition only with oil from olives raised under similiar conditions. "There is a great difference between the olive of the plains and the olive of the hills," anid he, " and if my oil from olives of the plains was compelled to compete with European oil from olive trees grown on hill-land, where perhaps tree . have been bearing for 200 years, it would not be just. If they make the distinction between that from the hillsides and that from the plains, I am willing to have the omparison male, and even honorary m enc ion from such a source would be a triumph

#### THE-

### San Francisco

for the American olive."

## Merchant

get hold of would be little more than a The Only Viticultural Paper in the State.

> Dev ted to Viticulture, O ive Culture, and other Production: of the Pacific Coast.

## E. C. HUGHES & CO.,

PUBLISHERS

- OFFICE: -

511 Sansome Street, SAN FRANCISCO.

CAL

### WAKELEE'S



Gopher and Squirrel Exterminator EINTI-LB. AND (5-LB. CANS.



#### STAR SPRAY PUMP

With Two Hose and Bamboo Extensions, Barrel and Nozzles oll on plite in operation.

The above cut represents our Double-Acting Star Spray Pump arranged for one or two Sprays or Hose, (we also fit this pump with one hose). This Pump is especially adapted for spraying liquids or poisons of any kind upon trees, shrabbery, orange trees, vines, etc., affected by bugs, worms, insects, etc. The valves are constructed entirely of Brass, and even to the packing it is made of abestos, which resists acids or hot mixtures of all kinds, and

is capable of doing infinite more service than any other pump to the market, as it is of greater capacity, and being double-acting in principle, throws a continuous and powerful stream.

SEND FOR OUR SPECIAL SPRAY PUMP CATALOGUE.

NOTICE, -ONGERTH'S LIQUID TREE PROTECTOR is the best Spray for killing Red Scale, Black Scale, White Cushion Cottony Scale, San Jose Scale or any other insect.

— SEND FOR FULL PARTICULARS,—WOODIN & LITTLE,

509 and 511 Market St.,

San Francisco, Cal.

## FANCHER CREEK NURSERY,

OFFERS AN IMMENSE STOCK OF

## Fruit Trees, Grapevines and Ornamental Trees,

White Adriatic Fig. Ten Tested Varieties of Table Figs. Olives

Pomegranates, and also a Fine Collection of Palms,

Roses and Oleanders.

A five-pound box of White Adriatic Figs sent by express to any address on receipt of \$1 50. Send for Fall Catalogue and address all letters to

F. ROEDING, PROPRIETOR, FRESNO, CAL.

## PURITY WINE CO.

OFFICE: 303 BATTERY STREET,

WAREHOUSES: Cor. Eighth and Brangan Sts. - - - CAPACITY: 5 000 000 Gallons



Wines treated under the Fraser Ebetro Magnetic Process, developing New Wines in thirty days, equal to three year's maturing under the old system.

R. J. HARRISON, President.

## MISSION OLIVE TREES!

5000 Mission Olive Trees, Grown from Hard-wood Cuttings, in open ground, one to two, and two to four feet high.

---- A L S O ---

BULLETIN FIGS

— AND A ——

General Assortment of Fruit Trees.

FOR SALE BY

TRUMBULL & BEEBE,

Nurserymen and Seedsmen,

419 and 421 SANSOME ST., - - - SAN FRANCISCO,

SUBSCRIBE FOR THE SAN FRANCISCO MERCHANT

## Arnad Haraszthy & Co.

VINEYARD PROPRIETORS

----AND ----

SHIPPERS OF CALIFORNIA WINES.

530 Washington Street, San Francisco, Cal.

California Wines and Brandies,
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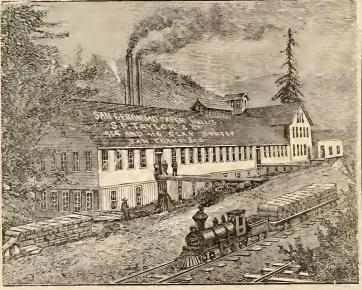
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